Abstract

‘Work ability’ is a multidimensional concept with importance for both society and the individual. The overall aim of this thesis was to illuminate work ability from the perspective of individuals (Studies I, III), rehabilitation (Study II) and employers (Study IV). In Study I five focus-group interviews were conducted with a total of 16 former unemployed sickness absentee participants. The interviews focused on their experiences of the environmental impact on return to work. The participants expressed a changed self-image and life rhythm. A need for reorientation and support from professionals was stressed. Experiences of being stuck in a ‘time quarantine’, i.e. a long and destructive wait for support, were also revealed. Study II was a randomised controlled study evaluating the interventional capacity of problem-based method (PBM) groups regarding anxiety, depression and stress and work ability compared to cognitive behavioural therapy (CBT) as a method within the Rehabilitation Guarantee. Effects were measured with psychometric instruments. The participants, 22 in the PBM group and 28 in the CBT group, were persons on sick leave because of common mental disorders. Within-group analysis showed significant lower degree of symptoms regarding anxiety and depression for both interventions. Between-group analysis showed significant lower degree of symptoms for CBT regarding anxiety, depression and stress. Within-group analysis of work ability showed significant improvement in one (out of five) subscales for the PBM group and in four for the CBT group. No significant between-group differences were found regarding work ability. In Study III, 16 participants were interviewed after completed interventions in Study II, eight from each intervention group. The interviews focused on their experiences from the interventions and the impact on their ability to work and perform other everyday activities. The interventions were experienced as having a positive impact on their ability to work and perform other everyday activities in a more sustainable way. Reflecting on behaviour and achieving limiting strategies were perceived as helpful in both in-
terventions, although varying abilities to incorporate strategies were described. The findings support the use of active coping-developing interventions rather than passive treatments. **Study IV** included interviews with 12 employers and investigated their conceptions of ‘work ability’. In the results three domains were identified: ‘employees’ contributions to work ability’, ‘employers’ contributions to work ability’ and ‘circumstances with limited work ability’. Work ability was regarded as a tool in production and its output, production, was the main issue. The employees’ commitment could bridge other shortcomings. In summary, in the work rehabilitation process, different perspectives on work ability need to be considered in order to improve not only individual performance but also rehabilitation interventions, work-places and everyday circumstances. Clearly pronounced perspectives can contribute to better illustrating the dynamic within the relational and multifaceted concept of ‘work ability’. The ability to work can thus be enhanced through improving individual abilities, discovered through reorientation and created through support and adaptation.
Original papers

This thesis is based on the following papers which are referred to in this thesis by their Roman numerals:

Paper I

Paper II

Paper III

Paper IV
Jansson I, Björklund A, Perseius K-I, Gunnarsson AB. The concept of ‘work ability’ from the view point of employers. Submitted.

Paper I has been reprinted with the kind permission of the journal.
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Preface

My interest in occupation and work can, I guess, be traced back to as early as my childhood. I remember when my mother took me and my brothers and sister, seven of us in all, to the woods to pick blueberries. The two oldest got two-litre bowls (they were of a similar age), the next in age got a one litre bowl, the fourth a half litre bowl, the fifth (me) a decilitre measuring cup. My youngest brother got a tiny bowl the size of a thimble and my youngest sister got a blueberry branch to eat from. As far as I can remember, we were all not only involved in the choice of bowls, but we also always, or almost always, “reached consensus” about their distribution. So what is the message? Everybody can contribute something but the contribution must be adapted to the individual’s possibilities and resources.

Another memory from my childhood is my older brother’s illness. The doctors suspected he had cancer and they were planning to amputate his leg. When he came home from hospital after a six month stay, still with a cancer diagnosis and walking on crutches (luckily, they didn’t amputate his leg, and he is still walking on both legs, aged 68), he was like a stranger to his younger siblings. However, he had learned to make belts and bracelets from plastic beads at the hospital and had brought home both a belt he had finished and a belt he had started on. When he showed us how he did this, we were all fascinated and interested and we focused on something other than a brother who could lose his leg. For us, his brothers and sisters, it was easier to focus on something in common than on his medical problem and, in fact, the plastic beads brought us together. So what is the message here? Oh, yes, illness has a tendency to interrupt communication between people and override abilities and skills.
For me, work is a form of communication, in a broad sense, among people. Where my skills end, someone else’s skills start. Work is doing something for someone else. It is altruistic.

My experience as an occupational therapist in various rehabilitation contexts, like work rehabilitation in health care and in communities, at employment offices and in a medical insurance context, have formed my view of work ability as something multifactorial, depending not only on factors within the individual but also on a range of factors in the individual’s environment. Let me tell about an episode from my work at an employment office.

A young man who – according to his sick note – had a minor transient problem with his foot, declared to his employment officer that he had problems accepting a job. When I, as an occupational therapist, met him to assess his work ability, he maintained he was having problems with his foot. I asked him to tell me about his everyday life. He said he was in a relationship and lived with his girlfriend. I asked if they had children. “She has a child from before and we’ve just had a baby,” he said, looking sad. “Congratulations!” I said but he still looked sad. I said what I saw, “You look sad.” “Yes,” he said. “How come?” was my question. He said, “My girlfriend has a postpartum psychosis. She thinks she will kill our baby. I’m afraid of leaving home. I can’t go to work. My girlfriend wants me to stay at home.”

We talked for a while about his girlfriend and what professional help she had received. The girlfriend had had a psychosis before when her first child was born. For the young man, these were new and frightening experiences. As we continued to talk about work, he said he would be able to work if he was sure he could get home within half an hour. His employment officer helped him get a job close to the home.

I have also met a great number of very committed employers. Human shortcomings in different ways are experienced by all of us, including employers. Often, these employers show an interest in fellow humans
and are interested in solving problems. My experience is that there can be a great deal of forbearance if an employee, in one way or another, is contributing to work production. I once met an employer who, when I asked what the employee did, said, “Actually nothing, but I still want him here, because he contributes to a feeling of well-being among his co-workers. He says ‘Come on, let’s start doing something.’ But he seldom does anything himself."

What I want to say by this is that you never know for sure what problems people have and what is hindering them or helping them to work. Anything in a person’s surroundings can hinder as well as support. You never know the reasons why an employer hires someone.

Whenever you want to know, you have to ask and you have to be curious and this will be the starting point of this thesis.
## Abbreviations and terminology

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>CBT</td>
<td>Cognitive Behavioural Therapy</td>
</tr>
<tr>
<td>CMD</td>
<td>Common Mental Disorders</td>
</tr>
<tr>
<td>DFA - chain</td>
<td>Diagnose – Function – Ability chain</td>
</tr>
<tr>
<td>Disability</td>
<td>The term disability in this thesis is related to work and not to other occupational areas</td>
</tr>
<tr>
<td>ICD</td>
<td>International Classification of Diseases</td>
</tr>
<tr>
<td>ICF</td>
<td>International Classification of Functioning, Disability and Health</td>
</tr>
<tr>
<td>Occupation</td>
<td>The term occupation in this thesis is synonymous with activity</td>
</tr>
<tr>
<td>PBL</td>
<td>Problem Based Learning</td>
</tr>
<tr>
<td>PBM</td>
<td>Problem Based Method</td>
</tr>
<tr>
<td>Productivity</td>
<td>The term productivity in this thesis refers to the outcome of work performance on both an individual and a group level</td>
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<tr>
<td>RG</td>
<td>Rehabilitation Guarantee</td>
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Introduction

This thesis encompasses a time in Sweden during which the sickness insurance system was reformed and national measures for return to work after sick leave were introduced. How the four studies in this thesis are chronologically related to the reformed sick leave process is shown in Figure 1.

Starting in the 1990s, there has been an increase in ill health and sick leave in Sweden with two groups of diagnoses together comprising almost 70% of sick leave costs. The two groups of diagnoses are 1) unspecified neck, shoulder and back pain and 2) mild to moderate anxiety, depression and stress syndromes [1].
Political efforts to facilitate (re)-entry to working life after sick leave have been initiated continuously since the rehabilitation reform in 1992. In 2001, on the initiative of the Swedish Government, the Swedish Labour Market Board and the Swedish National Insurance Board entered into a collaboration agreement. The purpose was to support and facilitate the return to work of the unemployed sick listed [2]. Return to work after illness is a complex process especially when unemployed. The problem of getting back to work may be more related to the environment than to the illness. In Study I, individuals’ experiences of environmental support and hindrance on their return to work process was explored.

In July 2008, several changes in the sickness insurance system were introduced in Sweden in the so-called Rehabilitation Chain [3]. This meant that the sick leave process and the return to work process became more active with fixed checkpoints for testing work ability and eligibility for sickness benefit [3].

Efforts were also directed towards health care with the purpose of reducing sick leave and facilitating return to work. In 2008, an agreement was signed between the Ministry of Health and Social Affairs and the Swedish Association of Local Authorities and Regions regarding a Rehabilitation Guarantee (RG) [1, 4-5] with the overall intention of decreasing sick listings and sick leave. The purpose was to guarantee evidence-based medical rehabilitation for the two groups diagnosed with unspecified neck, shoulder and back pain, or anxiety, depression and stress. Cognitive behavioural therapy (CBT) [6] has so far been the main evidence-based method for common mental disorders (CMD) in the RG. However, there is a need to develop further methods and extend the evidence for effects on improved work ability [4-5]. Problem-based method (PBM) is a method applied in health care settings but there is limited evidence regarding it improving work ability [7-10]. Evaluating PBM is one part of this thesis (Study II).
Studies have shown that individuals’ perceptions of their ability to work are more important than objective measurements of function. Therefore, it is important to understand individuals’ experiences of their return to work [11-12]. Since little is known about patients’ experiences of participating in interventions included in the RG, the purpose of Study III was to describe how individuals who had undergone either PBM or CBT in Study II experienced its impact on their ability to work and perform other everyday activities.

However, work ability has been described as a complex concept and mainly defined from medical insurance and rehabilitation perspectives [13-14]. How work ability is conceived among those who request this ability, the employers, is still less understood. Employers’ conceptions of work ability are the focus of Study IV included in this thesis. Knowledge of the expectations and needs of employers and working life, in terms of work ability, may facilitate adapting work tasks and work situations for people with health problems related to work.
Theoretical and conceptual frameworks

Firstly, the rationale for the choice of theoretical and conceptual frameworks in this thesis is presented. Thereafter, each of them more thoroughly introduced.

My professional experience is that environmental and interactional aspects are overlooked in the work rehabilitation process. Therefore, there is an alignment on environmental aspects of occupational therapy theory in this thesis. Accordingly, the Ecology of Human Performance (EHP) framework [15-16] presented below emphasizes the importance of the environmental factors and was applied in Study I.

The Model of Human Occupation (MOHO) [17] is an occupational therapy model (and theory) that has had and still has an extensive impact on instrument development in occupational therapy. The model serves as a theoretical base for the Dialogue on Work Ability (DOA) instrument [18-20] applied in Study II for assessing work ability. Parts of the MOHO which are of significance for the DOA instrument are therefore presented below.

‘Occupational form’ [17, 21] is a concept I have found useful for describing work demands and work tasks and consequently it is referred to and discussed in Study IV.

Since work rehabilitation often occurs in various organisational settings, and transition from one organisation to another is often part of the rehabilitation process, there is a need for a unifying model for understanding health conditions related to work ability. Such a conceptual framework is the International Classification of Functioning Disability and Health (ICF) [22] and it is referred to in Studies I-III.
Work is an activity considered to have great importance both for the individual and for the society. The importance is mainly connected to economical and welfare reasons and refers to ‘the jobs strategy’ [23]. The importance of work is also connected to social well-being and a sense of belonging. Since work is obviously perceived as too demanding among many individuals, especially women [24], I find it important to problematize the activity of work. Here, the philosopher Hannah Arendt [25] is presented since she brings up activities from both the public and the private spheres, defines activity in various modalities and relates human actions to thinking. Arendt’s thoughts on human activity concerning both everyday activities and paid work have been related to findings from the participants' experiences and employers' perceptions of work ability in Studies I, III and IV in the Discussion section.

The Ecology of Human Performance (EHP)

In occupational therapy theory, human occupation is central [15-17, 26-28]. Human occupation refers to doing for the purpose of meeting intrinsic human needs for self-maintenance but also for fulfilment and expression [17, 27]. Occupation requires an interaction with the environment. Occupational performance is the outcome of the interaction between the person, the environment and the occupation [15-17, 26-28].

Within the EHP framework [15-16], the environment is emphasized and it is impossible to observe the individual without regarding his/her environmental circumstances. The individual is seen as embedded in the surrounding environment and not as a component related to the environment. Also, the interaction, the ecology, between the individual and his/her environment is emphasized [15-16]. The EHP framework was applied in Study I since the aim was to identify environmental factors influencing the return to work process.

The EHP identifies social, cultural, physical and temporal environments. Social environment refers to other individuals, social and health care
systems and economic and political systems. Cultural environment involves what contributes to the person’s values and beliefs. Physical environment is non-human aspects including artefacts, buildings, etc. and the natural physical world. The temporal environment addresses time-orientated issues, like age, life cycle stage but also time conditions for performing various activities. Performance range is a concept in the EHP and refers to activities available in one way or another for the person.

The EHP has identified five intervention strategies for improving task performance: to ‘establish/restore’ which is the only strategy focusing on changes within the person and involves establishing new skills and abilities among the person. ‘Adapt/modify’, refers to making changes of the task or the environment. The ‘alter’ strategy refers to neither changing the person nor the environment but to altering the environment and finding a more fitting environment. ‘Create’ refers to establishing something new in the situation and, finally the ‘prevent’ strategy addresses hindering or averting a potential problem [15].

The Model of Human Occupation (MOHO) as a theoretical base for the instrument DOA

The MOHO is the theoretical base for the DOA instrument which was applied for assessing work ability in Study II. According to the MOHO, the three interrelated personal components, volition, habituation and performance capacity are integrated parts of a person, interacting with each other and with the environment, resulting in occupational performance. The MOHO builds on systems theory meaning that all components can contribute to occupational performance. Any change, within the person or in the environment can contribute to a change of performance [17]. The DOA instrument encompasses personal components of the MOHO. However, in the assessment procedure, the items are related to environmental work circumstances [19]. The personal component, volition, constitutes patterns of thoughts and feelings about oneself as an actor related to work. Volition includes personal causation, values
and interests. The habituation component includes roles and habits. Performance capacity refers to the ability to do things, i.e. being able to use one’s physical and mental abilities. Kielhofner [17] refers to skills when humans are performing purposeful actions. Three types of skills are recognized according to Kielhofner [17], motor skills referring to monitoring an individual’s body, process skills referring to cognitive abilities like organizing and solving problems and the third skill, communication and interaction, referring to the ability to convey intentions, act together with others and collaborate with others [17].

**Occupational form**

In order to describe and understand work demands, there is a need to analyze the task and the work environment in a systematic manner. In the field of occupational therapy theory, there are concepts that could be used in more applied contexts. The task to be performed can be defined as having an occupational form [17, 21, 29]. This concept was found useful in Study IV when describing and discussing expectations and perceptions from both employers and employees on what work tasks include. Occupational form is one of culture, a conventional way of performing a task or job. Every culture builds up their own set of conventional daily tasks performed by its members. Three aspects of the concept of occupational form can be identified, these are: occupational norm, occupational circumstances and occupational synthesis. Occupational norm implies a socio-cultural aspect which is the culture’s perception of how a task should be performed. This perception is transmitted through socialization and leads to a shared idea of how something should be performed.

The second aspect, occupational circumstances, is the in-the-moment actual circumstances when the task is performed. This aspect includes the physical environment as well as social and psychological components. Occupational circumstances refer to the unique situation of occupational performance, and these circumstances may never be fully controlled. For an occupational form to be perceived as meaningful to the
individual, an occupational synthesis is required. Occupational synthesis means that the individual has adapted to the occupational form. In an employment situation, the employer “buys” work performance from the employee. In this situation, it is important that both parties are in agreement regarding both occupational form and occupational norm. An occupational synthesis can be required by both the employee and the employer [29].

The International Classification of Functioning Disability and Health (ICF)

The ICF [22] is recurrently referred to throughout this thesis and in Studies I - III. The ICF is a conceptual framework based on a biopsychosocial model for health conditions. The ICF provides classification of health and health-related domains in a standardized language which enhances communication among professionals from different authorities and organisations. The multidisciplinary and interactive approach of ICF can serve as a “thinking model” and a unifying framework in cooperation between different authorities [30-31]. The ICF has been called a Swiss army knife owing to its versatility [32]. The ICF includes two parts: functioning and disability and contextual factors. The first part, functioning and disability, consists of the components: body structure, body function, activity and participation. The second part, including contextual factors, consists of the components: environment and personal factors. Each component can be expressed in either positive (functioning) or negative (disability) terms. Body in the ICF refers to the human organism as a whole, including the brain [22].

Activities and participation components, covering a range of life areas, are presented together with environmental factors in Table 1. Activity refers to the execution of a duty, and difficulties with execution are defined as activity limitations. Participation refers to involvement in a life situation, and difficulties with participation are defined as participation restriction. Activities and participation can be seen as the outcome of
the interaction between body structure and function and contextual factors [30].

The second part of the ICF is contextual factors referring to environmental and personal factors. Environmental factors are presented in five chapters and each chapter describes various physical, social and attitudinal environments covering the individual’s immediate setting to the general environment (Table 1). All environmental impact on functioning and disability should be regarded from the individual's perspective. Personal factors relate to aspects such as age, gender, social status and life experience [22].

*Table 1. ICF. Activities and participation and Environmental factors.*

<table>
<thead>
<tr>
<th>Activities and participation</th>
<th>ICF Environmental factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning and applying knowledge</td>
<td>Products and technology</td>
</tr>
<tr>
<td>General tasks and demands</td>
<td>Natural environment and human made changes to environment</td>
</tr>
<tr>
<td>Communication</td>
<td>Support and relationship</td>
</tr>
<tr>
<td>Mobility</td>
<td>Attitudes</td>
</tr>
<tr>
<td>Self-care</td>
<td>Services, systems and policies</td>
</tr>
<tr>
<td>Domestic life</td>
<td></td>
</tr>
<tr>
<td>Interpersonal interactions and relationships</td>
<td></td>
</tr>
<tr>
<td>Major life areas</td>
<td></td>
</tr>
<tr>
<td>Community, social and civic life</td>
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</tbody>
</table>

The ICF contains a vast number of categories, more than 1,400, leading to difficulties in using it as a practical tool [33]. Therefore, it has been considered necessary to develop core sets of the ICF. Developing core sets means selecting the most relevant categories for the purpose [34]. In the area of this thesis, two directions of core sets can be identified:
one aimed at work rehabilitation [30-31, 33-34, 35-36] and one aimed at medical insurance evaluation [37-38].

In an international project for the development of ICF core sets for work rehabilitation, consensus was reached regarding the most important categories in work rehabilitation settings. The consensus built on studies from the perspectives of professionals, experts in work rehabilitation and from participants taking part in work rehabilitation. Strangely, employers’ perspectives were not explicitly included in the project [30-31, 33-34, 35-36]. The categories chosen were for the most part from the activities and participation component, followed by environmental factors. The fewest number of categories were from body functions [30].

In the development of core sets for medical insurance evaluation, the core categories were mainly from activities and participation and some from body functions. No categories were chosen from environmental factors [37].

A philosophical model concerning labour, work and action

Hannah Arendt (1906 –1975) was a German-Jewish political philosopher. Among other works, she is known for her work, the Human Condition [25]. In this, she explored the fundamental modalities of the vita active: labour, work and action. In common with occupational therapy theories, Arendt [25] explored human activity. Arendt [25] distinguished three modalities of human activity. Labour refers to activity undertaken by necessity without considering possible extended purposes. It refers to the recurring repetitive activities that constantly need to be done to maintain the biological existence, e.g. cooking and eating. Labour reflects human biological processes and represents the basics of life. It is a cyclical process leaving no traces behind [25, 39]. Arendt considered labour to be the most basic never-ending form of activity and it can be both pleasant and also mentally imprisoning. On the other hand,
work, is not undertaken by necessity but by utility. Work is a goal-directed activity and refers to a means to an end activity leaving an artefact behind [25, 40]. Thus, work provides an “artificial” manmade world differing from the natural environment.

According to Arendt [25], action is the activity that takes place between people. Plurality is therefore the prerequisite for action. Action means taking the initiative and starting something in interaction with others; thus, action is unpredictable. Action is not repetitive like labour and does not leave something behind like work; still, it is productive. It is in the modality of action that humans achieve freedom and a good life. It is in action, which is also inseparable from speech that man’s unique specificity emerges. Arendt [25] did not specify the different modalities of activity, thus allowing their interpretation of modality in various circumstances [40].

Arendt [25] emphasized the intertwined connection between acting and thinking. Acting and thinking are dependent on each other. Not only is acting dependent on thinking – thinking is dependent on acting. Thinking means to reflect and not only what Arendt [25] called “continued thought”. Thinking has the potential to interrupt acting and thereby change acting [25, 40].

According to Arendt [25], modern society is dominated by labour at the expense of the other activities. Technological advancement has partly reduced demand on human labour, and labour could be regarded as less relevant in modern society. This situation has the potential to allow for a transition from a society centred on labour and work to a society centred on all forms of activities [25, 41]. Nevertheless, there is a glorification of labour. Mechanization and division of work has also broken up skilled tasks and transformed and reduced them to the endless repetition characterizing labour [25, 39-40]. The glorification of labour is, according to Arendt, manifested in the idea of the importance of paid work. Paid work is the way individuals can ensure their material livelihood and satisfy needs for consumption [41].
In summary, all the frameworks and concepts described above are useful in describing human activity and work ability. The EHP, the MOHO and the concept of ‘occupational form’ are useful from an occupational therapy theory view, the ICF from a health-related and a multidisciplinary view and Arendt’s thoughts from a philosophical view.
Background

Work ability

In this part of the thesis, aspects of work ability are presented. The essentials of work are described first. Apart from paid work, other everyday activities are part of everyday life and can have an impact on work ability. Other everyday activities referred to are the activities of daily living required for self-care [17, 42] and self-maintenance including housework [17], unpaid productivity performed regularly in people's lives providing services or goods to others [17, 42] and leisure [17, 42].

After presenting 'work', the concept of 'work ability' is presented. Various views on this multidimensional concept are described. Finally, the perspectives on work ability that are the objective for this thesis, i.e. those of individuals, rehabilitation and employers are presented.

Work

Engaging in work is one of many forms of human occupation and occurs in the context of time, space, society and culture. Work includes activities that provide services or commodities to others, which means doing something for someone else, and includes both paid and unpaid activities [15, 17, 26-27]. Work is mostly referred to and equated with paid work, and this is also the case in this thesis.

Work and employment are correlated with financial rewards and economic security, better health, a sense of belonging and gaining a more valued identity. The worker role is often important for an individual's sense of identity [43]. Moreover, work is perceived as something necessary and conducted with a strain of compulsion [27]. Work can also imply hazards and health risks and can be perceived as causing physical
and mental symptoms [44]. For many people, work has both rewarding elements and less satisfying elements [45].

Participating in work is not a matter of course for everyone. Work participation among people with disabilities is lower than for people without disabilities, both internationally [46-47] and in Sweden [48]. In the USA, four out of ten persons with various disabilities were part of the labour market while the employment rate for non-disabled persons was eight out of ten in 2005 [47]. In Sweden, the same pattern has been shown with five out of ten persons with disabilities taking part in the labour market compared to eight of ten without disabilities. Only three of ten with mental health problems take part in working life which is the lowest frequency of all disability groups [49]. The gap between people with and without disabilities participating in working life is not diminishing; rather, it is increasing [48]. Studies have shown that people with various health problems want to take part in the labour market, but experience difficulties in gaining access to it and are thus deprived of participation in working life [50-51]. Occupational deprivation has been identified as a risk for ill health for the individual as well as a societal risk following on exclusion of groups e.g. people with disabilities, from working life [27, 52-53].

The organisation of work in relation to time has led to a need for framing time aspects. On duty time means time that is controlled by concrete situations and contexts, such as the time it takes to cook a dinner. On duty time builds upon changes and rhythms in nature and humans’ occupational adaptations to these rhythms [54-55]. Under these conditions, working time is loosened up which means that activities are done under the current circumstances including pending, breaking or temporarily changing activities. On duty time means a high degree of availability both during the day and out of hours. With industrialization, abstract time, clock time, was introduced [54-55]. Time became a clock-related abstract phenomenon that was no longer anchored in concrete everyday life. This meant that work was centralized, mechanized and divided. When time was related to clock time, maximum human performance
was striven after. Production was no longer solely the result of the work an employee sold but rather the ability to produce as much as possible within a specific period of time. Working hours became more compact and a distinction between work and leisure time evolved.

The transition to a post-industrial society has meant that we to some extent have returned to the agrarian societal temporal structure with on duty time where duties are flexible and can be performed at different times. Thus, we are now controlled and governed by both on duty time and abstract clock time. In post-industrial society, human performance has turned into a multitasking society [54].

An activity like cooking can be regarded as both unpaid and paid work depending on the circumstances during it is performed. Paid work may be seen as a result of societal and political development and can thus be identified as having a social relationship and not according to what has been produced. This means that an individual can commute between the sphere of unpaid work and paid work at the same time [27]. The traditional pattern is that women to a higher degree are in the sphere of unpaid work while men are in the sphere of paid work [54]. Although women do paid work to the same degree as men, the development towards equal engagement in both work spheres has not yet been achieved [56]. In Sweden, since the 1980s, the labour force has comprised almost equal numbers of men and women. However, women work part-time to higher degree than men [24]. In 2011, 32 % of the women and 10% of the men worked part-time. Although men’s engagement in unpaid work has increased since 1990 women are still engaged in unpaid work to a greater extent [56].

**Views on work ability**

Work ability can be viewed from various perspectives [57]. A single view or single definition of work ability may not be useful for describing
the complexity and diversity of this concept [58]. Therefore, various views on work ability are presented in this section, starting with the medical insurance view on work ability, representing legal purposes for eligibility to paid sick leave [37, 59]. Thereafter follows an action theory view on the concept of work ability [60-62] and, finally, Ilmarinen's [57] definition of the concept, representing an occupational health view on work ability is presented.

From a medical insurance perspective, the purpose is to clarify the legal right to a social benefit. In most Western countries, work disability from a medical insurance perspective is mainly restricted to the function and activity components of the ICF [37]. The environmental and personal components in the ICF are rarely mentioned [37-38, 63-64]. In the Swedish guidelines for assessing work disability, this restriction of the concept is pronounced narrower. The assessment of limited work ability follows the so-called Diagnose, Function and Activity (DFA) chain [65] where function and activity are components taken from the ICF [22]. The prerequisite for limited function and activity is a diagnosis in accordance with the International Statistical Classification of Diseases and Related Health Problems (ICD) [66]. Medical certificates in Sweden are designed in accordance with the DFA chain. The DFA chain can thus be seen as a hybrid model incorporating parts from two different models. The two different classification systems express two different types of health philosophy, where “health” is either seen as more subjectively defined and context bound (ICF) or seen to be more objectively determinable (ICD).

Nordenfelt [60] takes his point of departure from an action theory basis and comes to the conclusion that both internal factors (ability) and external factors (opportunity) influence work ability. Ability refers to the individual capacities and opportunity refers to factors in the environment. The practical possibility to work means having both the ability and opportunity to work. Nordenfelt [60] emphases the interactional feature of the concept of work ability and stresses the importance of
systematizing and classifying the conditions and factors influencing work ability.

Tengland [61] who also emanates from an action theory basis, has suggested a definition of and a framework for assessing work ability. This definition addresses assessing work ability with the purpose of legislating for the regulation of sickness insurance. Tengland [61-62] defines work ability as something within the individual and work environment as the platform for work-related actions. However, he means that work ability cannot be specified without relating it to a task and a work environment. He proposes two variants of the work ability definition, one for a specific job and one for work in general. The first definition, specific work ability, is the ability one has in relation to a specific job. The second, general work ability, refers to basic abilities most people have to perform some kind of job after a shorter introduction [61-62].

The third view on work ability is an occupational health view elaborated by Ilmarinen [57]. Ilmarinen [57] defines work ability as a balance between personal resources and work. Personal resources include health-related resources, competence and values and motivation. According to Ilmarinen [57], the balance may change continuously and be different in different phases of working life. Work ability is also affected of life outside work. The close environment, like family, influences work ability, other societal environments like infrastructure, services and regulations also have an impact on work ability. Work ability can be promoted by many factors other than health-related ones [57].

Ilmarinen [57] illustrates work ability as a multifaceted concept, graphically represented by a ‘Work ability house’ with four floors. The first floor consists of physical, mental and social abilities. The second floor entails the individual’s skills and competence. The third floor houses motivational factors, while the fourth floor is dedicated to work, work-related environmental exposures to physical and psycho-social and organizational factors. The Work ability house is surrounded by family, close community and occupational health and safety factors [67]. Il-
marinen [57] has developed the Work Ability Index (WAI) for measuring work ability. This instrument has been widely used, mainly in research but also in occupational health services.

The views on work ability described above can be streamlined to a dichotomy of the work ability concept according to their overall purposes [14, 59, 68].

The main purpose of the narrower perspective is mainly to regulate insurance benefits and identify work disability rather than to enable work ability. Work ability and work disability may thus be seen as two sides of the same coin. Regarding work disability, it deals with entering society's benefit system, while, in the case of work ability it deals with entering the labour market [69]. On the one hand, work ability is regarded from a multidimensional interactional perspective and, on the other hand, from a narrower perspective. The main purpose of the multidimensional interactional perspective is to enhance and promote work ability. Multiple aspects consider the individual's abilities and resources, such as health, education, motivation or interests, but also the adaptation of tasks and environment with the purpose of enabling work ability. Referring to the ICF [22], this means that all components in the ICF are considered as well as other, non-health related components, such as education [61]. Both the action theory view [60-62] and the occupational health view [57] incorporate a multidimensional interactional perspective which is in accordance with occupational therapy theories [15-17, 26-28]. This dichotomy of the concept means that the individual may be seen from two different perspectives with completely different frames of references depending on whether work disability or work ability is regarded [14, 59, 68-69].

Work ability may thus be interpreted and defined from different starting points, from a strictly biostatistical/medical insurance approach to an activity- and action-orientated approach. The fact that the biostatistical orientated definitions are more adhered to and more defined may be due to that definitions and assessments of work ability are undertaken
from a legal aspect, i.e. to determine if the individual is entitled to benefits or not [69].

**Work ability – individuals’ perspective**

Individuals’ perspective on what the concept of work ability implies has been less explored. However, studies on individuals’ perceptions of factors influencing work ability and return to work have been conducted. Perceptions of return to work may mirror perceptions of work ability.

Both personal factors and environmental factors have been identified as important from the individual’s perspective.

Personal factors include managing symptoms [70-71] and having access to various coping strategies [70-71] like handling stress [72], although it was perceived difficult to implement and maintain coping strategies gained from rehabilitation settings in work-places [70]. Cognitive abilities like managing work tasks i.e. prioritizing what to do, adapting to new demands, handling frustrating situations and producing with quality were also perceived as important for work ability [71, 73]. Other reported factors of importance for work ability for the individual were having control over both work and everyday situations [74]. However, other studies have shown that reducing the sense of responsibility and accepting one’s own limitations supported handling work situations [70, 75].

Getting along with co-workers and being able to communicate with fellow workers was perceived as important [71, 73]. Also, communicating with the employer and clearly expressing needs and demands were also found to support work ability [71, 74].

Among environmental factors, a supportive work situation including fellow workers [70-71] and supportive employers [70-71, 74, 76-77] and adjustments and adaptations of the work situation [70-71, 74, 78] have been identified as enabling work ability. However, individuals ex-
pressed the need to practice and get used to adjustments [70]. Other enhancing environmental factors were support from family [71, 77, 79] and support from professionals e.g. health care [76-77].

Work ability – a rehabilitation perspective

In this thesis, the rehabilitation perspective refers to rehabilitation within the RG [4, 5, 80]. From a rehabilitation perspective, the purpose is to improve work ability after injury or illness. The RG addresses persons of working age, 16-67 years of age, with specific diagnoses. The RG entails the individual being guaranteed evidence-based rehabilitation within health care contexts with the purpose of improving work ability [80]. Thus, measures like the RG more or less explicitly define work ability as a medical issue that can be managed and treated with evidence-based treatments in health care. A medical scope presupposes treatment on an individual and body functional level according to the ICF.

From a rehabilitation perspective, work ability includes a transition from sick leave to either return to work or being able to work [80].

Work ability – employers’ perspective

Employers’ views on work ability are rarely investigated. The concept employability may to a great extent mirror employers’ views on work ability, but the definition of employability is also influenced by employment organisations and labour market policies with political intentions [81-82]. For employers, work ability is important for performance of work [47]. However, employers’ views on hiring people with disabilities have been investigated showing both reluctance and satisfaction [83—89].

In particular, employers without experience of employees with disabilities [87] have shown uncertainty and doubt when considering hiring a person with a disability. In a semi structured interview study, employers were asked about their attitude to hiring people with various disabili-
ties. The employers expressed concerns regarding three major issues: reactions from others, costs associated with hiring people with disabilities and concerns regarding qualifications and work performance [47]. In a study with simulated interview vignettes, it was found that employers assessed persons with mental disabilities as less employable than persons with physical disabilities [88].

In studies of employers with experience of hiring persons with disabilities, work ability has in general been found to be as good as or even better than expected [89]. In some cases, employers perceived work ability as outstanding and found employees with disabilities reliable and self-motivated [89].

In summary, both work and work ability are fluid concepts which change over time and according to a range of circumstances. Views on work ability vary according to the fields of application.

Mental illness and interventions to promote work ability for persons with CMD

Mental illness and its prevalence are described firstly in this part of the thesis. Thereafter, the main evidence-based method, CBT aimed at CMD in the RG is presented. Finally, PBM, the method evaluated in Study II also aimed at CMD is described.

Mental illness

In mental health care, there is a long tradition of drawing a line between "mild" and "severe" diagnoses. In earlier psychiatric literature, this distinction is discussed in terms of neurotic and psychotic illness respectively. This distinction can be traced back to when psychiatry made its entry into medical science in the late 1800s. Sigmund Freud (1856-1939), founder of psychoanalysis, was interested in developing treatment tools, mainly for neurotic psychiatric disorders, by using language
and conversation. In contrast to Freud, Emil Kraepelin (1858-1926), a German psychiatrist, developed symptom-based psychiatric diagnostics and was particularly interested in “severe” hospital-based psychiatry [90]. This line between “mild” and “severe” diagnoses can still be identified, i.e. the RG only addresses mild to moderate mental disorders. Severe mental illness is not covered by the RG.

Statistics from the Swedish Social Insurance Agency shows that in 2010 mental illness, including severe mental illness, accounted for 34% of all sick leave cases among women and 24% for men [91]. Sick leave due to mental illness varies in different age groups. From the ages of 19 to 49, sick leave for mental illness is around 40% for women and around 35% for men. From age 50 and over, sick leave due to mental illness decreases for both men and women among all sick leave cases. Mental illness is the only group of diseases that declines over time among both men and women [91]. Statistically, the longer the period of sick leave for mental illness, the substantially greater the risk of being unable to return to work when compared to sick leave for other diagnoses [92].

The increase in sick leave due to mental illness can be almost entirely attributed to light and moderate anxiety, depression and stress-related psychological disorders. Thus, it is not the severe psychiatric diagnostic groups which have increased [4]. From 1990 to 2000, sick leave for CMD-related syndromes almost doubled [93]. According to the Social Insurance Statistics in September 2009, almost 30% of all cases of sick leave were due to mental illness and, for the most part, the mild to moderate diagnoses were the cause of this figure [92]. The National Board of Health and Welfare’s definition of severe mental illness is defined from a functional perspective. When the individual, as a consequence of mental illness, faces difficulties performing activities in key areas of life and these difficulties have persisted or are expected to persist for some time, there is a severe mental illness [94].
Cognitive behavioural therapy (CBT)

Psychotherapy involves the use of psychological means, including feelings, thoughts and behaviours, to treat mental illness [6]. The development of more cognitively-orientated treatment took place in the USA from the midst of 1960s and onwards. In the early 1970s, the term cognitive behavioural began to appear [95]. Aaron Beck, who represented cognitive therapy, is one of the most influential figures of modern CBT. According to Beck, beliefs and thoughts affect behaviour and subsequent actions. If beliefs and thoughts change then symptoms will also change [96].

CBT, which is one of the most common and widespread psychotherapy methods, is an active form of therapy where the dialogue between the therapist and the client is intended to define a clear goal that the client is working towards. The overall goal of CBT is for the client to become aware of negative automatic thoughts, and understand the relationship between cognition, emotion and behaviour in order to change thoughts, feelings and behavioural patterns that lead to him/her feeling bad [96]. The basic thesis of CBT is that our ingrained beliefs about ourselves, others and the world are the driving force behind our feelings and actions. These ingrained beliefs can develop into abnormalities or psychological disorders. CBT can be adjusted to the patient's diagnosis [95].

Up to now, CBT has been the main evidence-based treatment in the RG for patients with mild to moderate mental illness. Using ICF terminology, CBT emanates from the body function components [22]. After close examination, the available evidence regarding work ability and return to work after CBT is almost not existent [92, 96-97] even if evidence is a requirement for established method in the RG. In the choice of CBT as an evidence-based method, symptom reduction and improved health have been interpreted as and assumed to be causal to return to work [92].

In a randomized controlled study, Blonk et al. [96] evaluated the efficacy of CBT for individuals suffering from anxiety, depression and/or stress.
The study included a total of 122 individuals randomized to either intensive CBT, combined intervention with simpler CBT and work interventions, and a third control group with treatment as usual. Assessments were made before treatment and four and ten months after treatment ended. The combined CBT treatment showed significant improvements for both part- and full-time return to work in comparison with the intensive CBT and the control group with treatment as usual [96].

Problem-based learning (PBL) and Problem-based method (PBM)

PBM has its origin in North America and was introduced as Problem-based learning (PBL) during the 1960s at a time when interest in adult learning was highlighted. A rapidly changing society with demands on the individual for new knowledge, abilities and skills resulted in a need to continue to develop as an adult. Learning began to be regarded as a lifelong necessity. The reasons for introducing PBL came from criticism from employers who did not consider young people leaving school as meeting the requirements of the work situation. Modern industry required manpower which could solve problems, communicate and work in teams. Other demands on manpower included constantly learning new things, being prepared for change and having the ability to assess their own efforts [98].

Pragmatism, represented mainly by Dewey, is one of the influences of PBL. Dewey coined the expression “learning by doing” [99]. According to pragmatism, human beings can and want to continue to learn. Basically, continuing to learn is about survival in a broad sense. When new situations arise, where the individual’s past performance and behavioural patterns are not enough, it becomes necessary to learn new strategies. Dewey’s philosophy was that the individual should acquire a structure for how to attack and solve problems and not only how to solve the current problem [100]. In PBL, the focus is on the student’s learning, yet the supervisor’s role is of great importance and can be summarized to the
role of facilitator. The supervisor’s role is to support the students’ consciousness and develop the meta-cognitive functions of learning. Metacognition is an executive function, which means thinking and reflecting on a meta level about the problems or situations that are in focus, thinking about how to think. Furthermore, it is the duty of the supervisor to drive the learning process forward, to encourage deepening of the knowledge area and ensuring that all students are in the process, which means holding the group process together.

Moreover, it is part of the supervisor’s role to ensure that the approach to the problem is formulated in a manner sufficiently complex as to be interesting and, at the same time, sufficiently limited so as not to be too extensive and thus frustrating. The supervisor’s role is also to provide knowledge on the subject. The supervisor’s attitude is extremely important and he/she must understand and be aware of various group dynamic processes [101].

In the 1990s, PBM was introduced in Sweden in various rehabilitation situations with patient groups. Medin, Bendtsen and Ekberg [10] observed similarities between a learning situation where the individual faces a problem and a rehabilitation situation. In a rehabilitation situation, the situation is similar, and often neither the patient nor the therapist knows what the solution might be. Often there are several solutions. Medin, Bendtsen and Ekberg [10] acknowledge and emphasize the need to utilize the natural, inherent and innate force for development arising from the individual’s need for group identity and competence in different situations. They also emphasize the awareness and knowledge of how to manage change in the rehabilitation process. To enable change, the individual must have reasonable requirements that are possible to handle, and the individual must feel in control of the situation. PBM in groups is not therapy or some form of psychotherapy, but rather a pedagogical method [10].

PBM has so far been applied and studied in various contexts such as health care [102-106], preventive health care [7, 10, 107-108], indus-
trial health care [9] and work-places [8]. The target groups have included a range of diagnoses including musculoskeletal pain [9], rheumatoid arthritis [102, 108], diabetes [107], coronary artery disease [103-106] and people at risk of burnout [7], but also in groups with a mixture of health problems [8, 10].

Results from studies of PBM have thus far shown improvements in lifestyle changes [103], coping abilities [9, 107-108], perceived health and quality of life [7, 9, 103-104], work-place changes [7, 9], work participation [7], knowledge about self-care strategies [102-103] and social support [7, 9]. However, other studies have not shown any changes in lifestyle [102, 104, 107], coping ability [102], knowledge about self-care strategies [107] or perceived symptoms [7].
Rationale for the thesis

Few studies have been performed with the purpose of exploring individuals' perceptions of environmental impact on their return to work process [109-113]. Thus, only limited knowledge is available in this area and, hopefully, the studies in this thesis to some extent can broaden this knowledge. Knowledge of individuals' perceptions of environmental support and/or hindrances can improve and facilitate return to work and work ability, benefiting individuals and society.

The RG [1, 4-5, 80] was introduced with the intention of guaranteeing evidence-based medical rehabilitation. Since the range of evidence-based methods regarding CMD and enhanced work ability is still limited, research in this area is needed. Until now, CBT has been the main evidence-based method in the RG. However, more methods need to be developed to meet a variety of needs and contribute to sustainable rehabilitation. PBM has been applied in medical health care as a health promoting method [102-106]. However, evidence that this method improves work ability within a health care context is limited.

The RG was introduced in 2008. Knowledge of individuals' experiences of participating in interventions included in the RG is still limited. Therefore, knowledge of their experiences of the impact of interventions on their work ability and other every day activities is important for a trustworthy evaluation of the results of rehabilitation.

Since work ability is an ability that is manifested and used in working life and “bought” by employers, it is important to identify their perceptions of the concept. Knowledge of the expectations and needs employers and working life have, in terms of work ability, will make it easier to adapt the work situation for individuals with disabilities. A better understanding of employers’ fears and concerns regarding work ability can
help to better highlight the resources that people with disabilities can contribute and under what circumstances these resources can be harnessed.
The aim of the thesis

The overall aim of this thesis was to illuminate ‘work ability’ from the perspective of individuals’ (Studies I, III), rehabilitation (Study II) and employers (Study IV).

The specific aims of the four studies were to:

Study I: from an environmental perspective, explore the experiences of former unemployed sickness absentees returning to work.

Study II: evaluate PBM compared to standard CBT for persons on sick leave according to symptoms of anxiety, depression and stress and self-assessed work ability.

Study III: describe how individuals who had undergone either PBM or CBT experienced its impact on their ability to work and to perform other everyday activities.

Study IV: identify and characterise employers’ conceptions of what work ability means.
Figure 2 shows the three perspectives on work ability in relation to the four studies in this thesis.

Figure 2. Three perspectives on work ability in relation to the four studies in this thesis.
Methods

Design

Studies I, III and IV had a qualitative design using interviews for data collection. Study II was a randomised controlled study.

**Study I**

In Study I, a qualitative explorative research design was chosen. Since it was expected that individuals’ perceptions of the environmental impact on their return to work process would be implicit and not clearly pronounced, focus groups based on a grounded theory methodology were chosen. Focus groups are useful in discovering how people sharing a phenomenon think. Focus groups are thus exploratory to their nature, disclosing experiences and thoughts through interaction among individuals (114-115). It was found appropriate to combine grounded theory and focus group methodology since grounded theory allows for expanding and refining the collection and analysis of data throughout the research process. This made it possible to answer questions that arose from previous data (116-117).

**Study II**

In Study II, a quantitative design with a randomised controlled trial was used as the aim of the study was to evaluate the effectiveness of two interventions.

The experimental group received PBM. A PBM manual with a structure for each session was developed following the PBM concept [8-9]. The manual was developed together with the two group leaders. The PBM interventions lasted for twelve weeks with one three hour session per
<table>
<thead>
<tr>
<th>Study</th>
<th>Study I</th>
<th>Study II</th>
<th>Study III</th>
<th>Study IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study design</strong></td>
<td>Qualitative</td>
<td>Quantitative randomised controlled study</td>
<td>Qualitative</td>
<td>Qualitative</td>
</tr>
<tr>
<td><strong>Participants</strong></td>
<td>Former unemployed sickness absentees</td>
<td>Patients on sick leave</td>
<td>Patients who had undergone interventions in Study II</td>
<td>Employers</td>
</tr>
<tr>
<td><strong>Study settings</strong></td>
<td>Employment office/workplace</td>
<td>Primary health care</td>
<td>Primary health care</td>
<td>Work-places</td>
</tr>
<tr>
<td><strong>Number of participants</strong></td>
<td>16</td>
<td>22 experimental group</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28 control group</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Men/ women</strong></td>
<td>8/8</td>
<td>2/20 experimental group</td>
<td>2/14</td>
<td>6/6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4/24 control group</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean age (min – max)</strong></td>
<td>44,4 (26-61)</td>
<td>43,4 (27-64)</td>
<td>46,8 (30-63)</td>
<td>48 (38-62)</td>
</tr>
<tr>
<td><strong>Methods for collecting data</strong></td>
<td>Focus group interviews</td>
<td>Questionnaires before and after intervention DOA, HADS, SCI-93 Demographic data</td>
<td>Individual interviews</td>
<td>Individual interviews</td>
</tr>
<tr>
<td><strong>Data analyses</strong></td>
<td>Grounded theory</td>
<td>Descriptive and inferential statistics</td>
<td>Qualitative content analysis</td>
<td>Phenomenographic analysis</td>
</tr>
</tbody>
</table>

week. The PBM groups were held at the health centre most convenient for the participants. The group leaders had undergone PBM training and were supervised by a highly experienced PBM group leader throughout the study. The participants in the control group received individual CBT. Depending on the participant’s diagnosis, there were manuals for anxiety, depression and stress syndromes respectively following the stan-
standard guidelines for CBT in primary health care [118]. The ambition was to offer on average a twelve session course of treatment. The CBT sessions were held at the health care centre that was geographically closest to the participants’ homes. The two CBT therapists were junior therapists working under the supervision of a senior CBT therapist who had supervisory qualifications.

**Study III**

As complementing the results from Study II, Study III’s purpose was to describe individuals’ experiences of the impact of the intervention (i.e. either PBM or CBT) on their ability to work and perform other everyday activities. Individual interviews were found to be an appropriate and feasible design for data collection, and qualitative content analysis was chosen since the experiences were obvious for the participants and there was no need to disclose experiences [119-120].

**Study IV**

In Study IV, as work ability can be performed in various work situations with various demands a phenomenographic approach with individual interviews was applied. As the phenomenographic approach aims to reveal qualitatively different ways of experiencing phenomena, it was found appropriate [121-122]. Conceptions are fundamental in phenomenography and they are regarded as dependent both on human activity and thinking, and the external reality. Conceptions are seldom explicit; they are more like unconscious thoughts that have not been reflected on [123].
Participants

**Study I**

The sixteen participants in Study I, eight men and eight women, were strategically chosen considering both heterogeneity and homogeneity. In this case, the participants had a long period of sick leave and unemployment in common while the causes of illness, educational background and age differed. Presumptive participants were persons who had participated in collaboration between the Social Insurance Office and the Employment Office and afterwards continued to work or study full- or part-time. A selection of presumptive participants was continuously made with the purpose of reaching theoretical sampling. The selection of participants was done based on the Employment Office records in two towns located in the south of Sweden, one medium sized and one small town.

Four focus groups with three participants in each in the medium sized town and one focus group with four participants in the small town were conducted. The participants had been sick listed between seven months and three years. Demographic data was collected from the Employment Office records. The purpose of choosing two towns of different sizes was to obtain a broader representation of different labour markets and various sizes of the Employment Offices and the Social Insurance Offices.

Seventeen of the thirty three persons who were asked to take part in the study declined to participate, mainly due to lack of time.

**Study II**

Participants in Study II, 22 in the experimental group (2 men and 20 women) and 28 in the control group (4 men and 24 women) were recruited at health care centres, employee health services and psychiatric outpatient centres in two counties. Patients with CMD as specified in the ICD diagnosis codes F 32-33, F 40-41 and F43 [66] on sick leave or at
risk of sick leave were eligible for the study. Inclusion criteria were: being between the ages of 18 and 65 and meeting the requirements for the RG, i.e. meeting the diagnostic criteria as above. Exclusion criteria were known alcohol or drug abuse and difficulties in speaking Swedish to the extent that the ability to take part in conversational treatment was limited.

The randomisation of participants combined the basic requirements for random assignment with practical considerations. The basic requirements for random assignment meant that chance determined the probability for each participant included to be given either PBM or CBT [119]. The randomisation procedure was performed on an individual level based on six geographical blocks, three in each county. The geographical blocks were established for practical reasons, i.e. they offered interventions reasonably geographically close to participants. As referrals were received, envelopes were consecutively drawn by a secretary who was unconnected to the study. The secretary informed the therapists/group leaders of the randomisation; they in turn contacted the participants. The researchers were blind to the group assignment during the data collection procedure. The flow of randomisation of participants is shown in Figure 3.

Drop out – the external drop-out rate was 40% in the experimental group and 28% in the control group.

**Study III**

Participants in Study III were recruited from Study II and had received one of the interventions, i.e. either CBT or PBM. The selection procedure of participants was strategic, with the ambition of reaching a range regarding gender, age, county council and return to work. The latter means that both those who returned to work and those who did not were included. Fourteen women and two men were selected, eight from the PBM group and eight from the CBT group. They were aged between 30 and 63. The mean age for the participants was 46.8. Both mean age
and gender distribution were in accordance with participants in Study II. Eight of the participants before and three after the intervention were on full or partial sick leave. Eight of the participants before and thirteen after the intervention were working or studying full- or part-time.

All contacted participants agreed to participate.

![Flowchart](image)

**Figure 3. Flow of the randomisation of participants in Study II.**

**Study IV**

The participants in Study IV were employers. They were chosen strategically with the purpose of obtaining a variety of views and conceptions. Variation was considered regarding branch of industry, number of employees, educational demands on employees, geographical localisation
and employers’ age, gender and number of years as employers. Inclusion criteria were employers with a close connection to production and an understanding of the work demands, and experience of employee(s) with various work-related disabilities including mental health problems. Employers were contacted by telephone and informed of the study and the inclusion criteria. If they met the inclusion criteria, they were invited to participate. Six male and six female employers from various workplaces in three geographical areas in Sweden accepted the invitation. Five of them represented workplaces with mainly lower educational requirements while two represented workplaces which required higher education. The others represented workplaces with mixed educational requirements.

Two of the contacted employers declined to participate.

*Participants’ (Study II–IV) connection to branch of industry*

The participants’ (Studies II-IV) connections to industry branches are shown in Table 3. The categories A-U in Table 3 list all branches of industry in Sweden [124]. The participants in Study I was not included in the table. They had a weak connection to any branch of industry since they had been unemployed for long periods of time and any actual periods of employment were short and could also have been time limited. The table shows that the participants in Studies II-III came mainly from the human health and social work, education, wholesale and retail trade, and accommodation and food service branches. These branches are also represented by employers (Study IV) (Table 3).
Table 3. Participants’ and employers’ connection to branches of industry in Studies II, III and IV according to the Swedish Standard Industrial Classification [124].

| Branch of industry | Participants Study II (n=50) | Participants Study III (n=16) | Employers Study IV (n=12) (representation marked with yes/ -) *
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>A. Agriculture, forestry and fishing</td>
<td>1</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>B. Mining and quarrying</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C. Manufacturing</td>
<td>4</td>
<td>2</td>
<td>yes</td>
</tr>
<tr>
<td>D. Electricity, gas, steam and air conditioning supply</td>
<td>-</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>E. Water supply</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>F. Construction</td>
<td>1</td>
<td>1</td>
<td>yes</td>
</tr>
<tr>
<td>G. Wholesale and retail trade</td>
<td>6</td>
<td>2</td>
<td>yes</td>
</tr>
<tr>
<td>H. Transportation and storage</td>
<td>1</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>I. Accommodation and food service activities</td>
<td>6</td>
<td>3</td>
<td>yes</td>
</tr>
<tr>
<td>J. Information and communication</td>
<td>1</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>K. Financial and insurance activities</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>L. Real estate activities</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M. Professional, scientific and technical activities</td>
<td>4</td>
<td>1</td>
<td>yes</td>
</tr>
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<td>N. Administrative and support service activities</td>
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<td>O. Public administration and defence</td>
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<tr>
<td>P. Education</td>
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<tr>
<td>Q. Human health and social work activities</td>
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<tr>
<td>R. Arts entertainment and recreation</td>
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<td>S. Other service activities</td>
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<tr>
<td>T. Activities of households as employers</td>
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<td>-</td>
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</tr>
<tr>
<td>U. Activities of extraterritorial organisations and bodies</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>
Data collection

Study I – focus group interviews

Five focus group interviews were carried out for Study I from January 2005 to May 2005. The question areas emanated from the structure of environmental factors associated with return to work elaborated by Shaw and Polatajko [28]. This structure allows for identifying multiple environmental factors in the work-place, society and the individual’s close environment.

The question areas concerned how factors in the social, organisational, cultural and physical environment supported or obstructed the participants’ process of returning to work. A pilot interview with one former unemployed and sick listed person was carried out in order to test the question areas. This interview resulted in an openness to reformulate the questions based on the situation in the focus group interviews that would follow. The objective of the question areas was not to have one answer to each question but to inspire the participants to think and reflect along the lines of the question and to make the different environmental domains explicit for them.

The interviews took place at the Employment Office in each town. Informed consent was signed prior to the interviews. The interviews began with a brief introduction and presentation of the aim of the study. The participants were then given the opportunity to introduce themselves and ask questions about the study. The participants agreed on discretion in order to safely express their thoughts and experiences. They were encouraged to discuss with each other and it was stressed that their opinions and experiences were valuable and important. The interviewer guided the discussion and encouraged all participants to take part in the discussion. As a form of member-checking, a short summary of what had been discussed was given at the end of each session. A reflection diary was used and occurrences in the research proc-
ess like feelings, ideas, interview content and method were noted [125]. All interviews were recorded and transcribed verbatim.

**Study II – questionnaires**

In Study II, data were collected from January 2011 to April 2012 on the outcome measures regarding mental health symptoms and work ability. Mental health symptoms were anxiety and depression operationalised by the Hospitals Anxiety and Depression Scale (HADS) [126-128] and stress operationalised by the Stress and Crisis Inventory (SCI-93) instrument [129-131]. Work ability was operationalised by the DOA instrument [18-20]. Questionnaires containing the instruments together with questions on socio-demographic factors were distributed by post before and after the intervention. The socio-demographic questions concerned age, gender, employment, profession and sick leave. The same questionnaires were used before and after except for some demographic questions which were removed in the follow-up.

The HADS measures levels of symptoms of anxiety and depression on two separate subscales. The instrument contains 14 items of which seven are related to anxiety and seven to depression. The score on each of these subscales is the sum of the individual item scores (range 0-21), the higher the degree of anxiety and depression, the higher the score [126]. The instrument has been thoroughly tested and is widely used in various settings and with various samples [127-128]. The HADS has shown good reliability with Cronbach’s alpha values for the HADS-A (anxiety) subscale mean 0.83 (range 0.68 to 0.93) and for the HADS-D (depression) subscale mean 0.82 (range 0.67 to 0.90) [127]. The HADS shows a stable two-factor structure supporting the two scales [127-128]. It has been tested in primary health care populations showing good ability to detect psychiatric morbidity. Compared with other common instruments, the correlation coefficients were 0.60 for HADS-D and 0.80 for HADS-A, which are considered as medium to strong correlations [127].
The SCI-93 is an instrument measuring stress manifested in autonomous dysfunction using a total of 35 items. The SCI-93 contains three subscales: vegetative symptoms (20 items), mental symptoms (6 items) and muscular symptoms (9 items). Each item scores from 0 to 4 with a possible total score of 140, the higher degree of autonomous dysfunction, the higher the score [129-131]. The SCI-93 has been applied in evaluating work ability in medical insurance contexts [129-131]. The instrument’s reliability has been assessed on patients with different work-obstructive limitations (n=46). Inter-rater reliability was assessed to 0.76 for the mental symptoms subscale, 0.60 for muscular symptoms and 0.60 for vegetative symptoms. The corresponding correlation coefficients for the subscales were 0.92, 0.91 and 0.94 respectively. The results indicate good reliability [129].

The DOA is an instrument developed from the theoretical framework in MOHO [17]. The instrument was put into practice in Sweden at the beginning of 2000 [19]. Originally, the DOA contained two sections, the individual’s self-assessment and an assessment made by an occupational therapist, with 34 equivalent items in each assessment. The main purpose of the DOA is to start a dialogue about ability to work and is thus applied as a process instrument. The DOA can also be applied as an outcome measure on a group level using the self-assessment section alone. This was the case in Study II. The DOA measures five aspects of work ability: ‘personal motivation, values and interests’ (9 items), ‘roles and habits’ (8 items), ‘physical ability’ (4 items), ‘organisational and problem solving ability’ (6 items) and ‘communication and interaction ability’ (7 items). The items score from 0 to 4, higher scores indicating higher work ability [18-19].

The DOA has shown moderate to good reliability regarding test retest (n=34) in a sample of psychiatric outpatients taking part in work rehabilitation, and good inter-rater reliability (n=14) with a percentage of agreement (PA) ranging between 93.1% and 96.5%, which is above acceptable criteria, i.e. 80% [17]. The DOA has shown good construct validity using the Rasch analysis test in a study of 21 professionals and
126 clients from psychiatric work rehabilitation. 29 of the 34 items had values within the acceptable criteria, mean square values (MnSq) from >= 0.6 to <= 1.4 in association with Z values from -2 to 2 [18].

When calculating statistical power in this study, the instrument for the main outcome measure, the DOA, was considered [18]. A difference of one scale step with a standard deviation of 1.23 (Cohen’s effect size = 0.81) was rated as a “large effect”. This calculation indicated a sample size of 100+100 participants randomised to intervention and control groups, giving a power over 90 % and an alpha at 0.05 [132].

**Study III – individual interviews**

In Study III, individual interviews were undertaken with participants who had completed either CBT or PBM. The interviews were performed from November 2011 to April 2012. The interview questions were based on an open narrative starting point and were then narrowed to more precise questions. The questions focused on experiences from the intervention; if and how the intervention affected work ability and work performance, if and how the intervention affected other every day activities besides work and if, in that case, what strategies had been acquired. Accompanying questions were continuously asked with the purpose of getting as rich and descriptive answers as possible. The interviews were conducted at the participants' nearest health care centre. Five of the interviews were conducted by telephone since the participants had moved due to start a new job or education. All interviews were recorded and transcribed verbatim.

**Study IV – individual interviews**

In Study IV, individual interviews were also undertaken. The interview questions were semi-structured and open-ended, allowing the participants to choose aspects of the phenomenon on which he/she wished to elaborate. The interviews were performed from December 2012 to March 2013. They started with some opening questions about the work-
place and its production with the purpose of creating a comfortable toler-

ant atmosphere. Questions on demographic data followed. The main

interview question was: “How do you perceive work ability?” Probing

questions like “Can you please explain that further?” were asked with

the purpose of uncovering implicit meanings. The term work ability was

presented without any explicit definitions or explanations with the aim

of reaching the participants’ unreflective conceptions of the phenome-

non. Ten interviews were undertaken at the employers’ work-places.

Two interviews were conducted by phone. All interviews were recorded

and transcribed verbatim.

Data analysis

Qualitative data

Data was analysed qualitatively in Studies I, III and IV.

Grounded theory is a qualitative methodology developed with the aim of
generating theory derived from data [133]. Nevertheless, methods in
grounded theory also serve as useful tools in exploring and describing
without theorising [133] which was the case in Study I. The procedure
for the constant comparative method allows for combining data collec-
tion, coding and analysis and this was also applied in this study [116].

A short summary was written concerning the content of the interviews
directly after the tape-recorded group interviews. Following the con-
stant comparative method, the analysis from the first interview was the
starting point for more precise questions, asked in the next interview.
When all interviews had been completed and transcribed verbatim, they
were read through and further notes about themes were made from the
overall impression. Meaningful segments in the texts were subsequently
marked. The meaningful segments were coded in relation to the content.
The designations for the codes emerged from the themes that emanated
from the overall impression. As the analysis continued, changes of codes
were made and new codes developed. The codes were then grouped and re-grouped into categories, which in turn were divided into subcategories. Finally, categories and subcategories were checked in relation to the original material. A colleague coded meaningful segments in 10% of the original material, and the inter-rater reliability was found to be 90%.

In Study III, qualitative content analysis was used according to Graneheim and Lundman [120]. There are two approaches in qualitative content analysis: a deductive approach and an inductive approach [134]. A deductive approach involves using a predetermined structure for analysing data. An inductive approach, which was applied in this study, involves using the data itself to derive a structure from the analysis [134]. Qualitative content analysis can be performed on manifest and/or latent content. Manifest content analysis deals with what the text says, the description, often presented in categories. Latent content analysis, on the other hand, deals with what the text talks about, the interpretation [120] which can be presented in themes.

The analysis in Study III was conducted in the following steps;
1. The transcripts were read through several times by the first author in order to get a sense of the content. 2. Short notes about the overall content were made. 3. Meaning units were identified and underlined. 4. Meaning units were condensed and abstracted to codes. 5. Based on similarities and differences, the codes were organised into subcategories and categories and connected to the interview questions. 6. An overarching theme was identified. The analysis was manifest in steps 3 and 5 and latent in step 6. An initial part of the data was analysed together with the study’s co-authors. Codes and categories were discussed and analysed by all four authors on numerous occasions until consensus was reached. The theme, categories and subcategories were compared with initial short notes on the interviews. The notes supported the categorisation.

In Study IV, another qualitative method, phenomenography, was used. According to phenomenography, the real world is experienced and understood in different ways varying among people [123, 135]. Focus in
the analysis in Study IV was thus on having in mind differences and similarities about the phenomenon. All data was handled as one dataset.

The analysis followed the steps recommended for the phenomenographic method [122-123]:
1. Familiarisation: started with listening to the interviews and repeated reading through the material in order to become acquainted with the content. 2. Condensation: the most significant utterances regarding the aim of the study in each interview were identified. 3. Comparison: the utterances were compared with each other to identify differences and similarities. 4. Grouping: similar utterances were placed together in categories. 5. Labelling: suitable semantic expressions for the categories were searched for. 6. Contrasting: the categories were compared regarding similarities and differences. 7. The final step was to reveal logical relationships between the categories and their representations in the form of various dimensions of the phenomenon. The analytical steps described above recurred frequently during the analysis process. The analysis ended with three dimensions with respectively five, five and three categories.

**Quantitative data**

In Study II, statistical analyses were performed according to the statistical analysis model containing the following components:
- Descriptive statistics on socio-demographic background data.
- Descriptive statistics on measurement-generated data at baseline and at follow-up.
- Internal consistency reliability tests for the psychometric measurements at baseline, both groups included.
- Hypothesis testing within-group analysis of baseline and follow-up outcome measures.
- Hypothesis testing between-group analysis of baseline and follow-up outcome measures.
Per protocol analysis was undertaken. Data were analysed with descriptive and inferential statistics performed using Statistica version 10 (Statistica, StatSoft Inc. 2010). Chi-square tests were performed on demographic characteristics. Differences in scores were normally distributed and analysed using repeated measures analysis of variance (ANOVA) to examine the within, between and interaction effects of intervention, followed by Duncan’s post hoc test in case of significance. The level for statistical significance was set to \( p \leq 0.05 \).

**Ethical considerations**

The studies in this thesis have been conducted in accordance with the declaration of Helsinki [136] and the guidelines from the Swedish Research Council [137]. Studies I-III were approved by the Regional Ethical Review Boards. Since no sensitive personal information was collected in Study IV and no structured personal data were recorded, ethical approval was not required [137-138].

In Study I, the participants were informed in writing of ethical standards prior to the focus group interviews. Before the interview started, the participants were again informed of voluntary participation and the possibility to withdraw at any time without explanation, the purpose of the study and the confidential handling of data. Thereafter, informed consent was signed. The participants agreed on discretion in order to safely express their thoughts and experiences. There was also a risk of unexpectedly recognising someone in the focus group which could lead to uncomfortable situations. Therefore, the entrance to the meeting room where the focus group interviews were held enabled participants to withdraw discretely.

In Studies II and III, information about the studies was given in writing, in some cases complemented with verbal information. The information comprised information about both Study II and Study III saying that participation could end up being asked to participate in an interview. Not all participants were asked to participate in Study III since the sam-
pling was purposive within the Study II group. The information underlined the voluntary choice of participating and the possibility to withdraw from participation at any time without any consequences for further treatment. The participants were also informed of the confidential handling and presentation of data. This information was repeated for the selected participants prior to Study III.

In both the experiment group and in the control group in Study II, sensitive topics could come up having a negative influence on mood and reactions to moods. However, both PBM group leaders and CBT therapists were experienced and accustomed to meeting individuals with mental health problems. They also had access to supervisors. All participants kept their ordinary health care connections during the study.

The design of a control group receiving standard treatment implied that all participants were allocated to an intervention. This design avoided a control group without intervention.

In the data collection procedure, the confidential handling of data was explicitly expressed in the questionnaires, and contact information was presented for possible questions.

One risk considered was referring to sensitive topics in the interviews. This risk was handled by offering the participants the possibility of contacting the interviewer if they had any questions, concerns or anything they wanted to add to the interview. Interviews were not held on Fridays with the purpose of being available the day after the interview had taken place.

Participants in Study IV were employers and they were not in a position of dependence vis-à-vis research representatives. All employers were informed both verbally and in writing about the purpose of the study. They were also repeatedly informed of the possibility of withdrawing their participation at any time without any explanation. Additionally, they were also informed that quotes from the data would be presented
in such a way that neither individuals nor work-places could be identified.
Summary of findings (Study I–IV)

The overall aim of this thesis was to illuminate ‘work ability’ from individuals’, a rehabilitation and employers’ perspective. Findings are summarized and presented for each study.

Summary of Study I


Personal transition. The findings showed that the participants in their process of being off work and then attempting returning to work experienced a personal transition manifesting itself as a negative self-image. They didn’t have the same capacity as before, however, they as well as people in their environment, felt expectations that they should be the same as before. The participants expressed a change of life-rhythm and restrictions of roles and habits.

Reorientation. The participants experienced a need for reorientation in their progress. A common feature was the participants’ negative experiences of getting back to their former work-place in cases where it was impossible to adjust their work-place or tasks to the acquired injury or impairments. In the reorientation process the participants expressed a need for personal support to be able to continue and find new solutions.

Standards and regulations. Regarding standards and regulations there was a wish for manifest employer responsibility in order to ensure the
employees to work in a durable way. Additionally, work management was perceived as unclear and lacking distinction. Regulations about sick leave and unemployment were also perceived as difficult to understand and that they constantly changed which lead to uncertainty.

**Belonging.** Belonging and sharing their experiences with others in self-help groups or guidance groups was perceived as positive. However, different interventions and employment measures during the participants’ rehabilitation implied being exposed to many different environments, often a number of preparatory activities or as trainees. The constant change of environments was experienced as requiring constant attention.

**Attitudes and treatments.** Regarding attitudes and treatments, the participants reported experiences of social stigmatization, both in mass media and in their immediate social environment, and moreover an increasing egocentricity among their fellow-workers.

**Supporting networks** were experienced from the participants’ families. This support was described as a personal support in order to manage their situation. Another support that was regarded as important was the support from other persons in the same situation like self-help groups and guidance-groups. Support from professionals was described as almost indispensable in order to be able to make progress.

**Time quarantine.** The long time it took before getting support from professionals was expressed as frustrating and described as being stuck in a ‘time-quarantine’. The experiences were that the long waiting times were destructive and as time went on it was harder and harder to get out of their situation.

**Summary of Study II**

The outcome in Study II was measured by the HADS (anxiety and depression), the SCI-93 (stress) and the DOA (work ability).
Anxiety and depression. In the within-group analysis both the participants in the PBM group and the CBT group showed a statistically significant reduction of symptoms of anxiety and depression. Between-group analyses at the time for follow-up showed significant decrease of symptoms of anxiety and depression (both subscales of the HADS) in the favour of CBT.

Stress. The PBM group showed a significant within-group difference on one subscale (mental symptoms) of SCI-93 at follow-up but no significant differences on the other subscales. The CBT group showed statistically significant within-group differences on all three subscales, i.e. mental, muscular and vegetative symptoms. Between-group analyses at follow-up showed significant differences on all three subscales of SCI-93 in the favour of CBT.

Work ability. In the within-group analysis, the PBM group showed significant improvement on one subscale (‘communication and interaction’). The CBT group showed significant improvements on four subscales (‘personal causation, values and interests’; ‘physical ability’; ‘organisation and problem solving’; and ‘communication and interaction’). In the CBT group, on the subscale ‘roles and habits’, there was a significantly poorer outcome compared to baseline. Between-group analyses at follow-up showed significant differences on one subscale (‘personal causation, values and interests’), in favour of CBT. The other subscales showed no significant differences.

The findings supported the interventional capacity of PBM groups in reducing symptoms of anxiety and depression for people with CMD. When it comes to reducing stress and enhancing work ability, the results indicated some interventional capacity, but not on the same level as CBT.
Summary of Study III

The analysis in Study III revealed one overarching theme: ‘Reaching safe ground or continuing to seek help’ with four appurtenant categories: ‘From being passive to making one’s own efforts in the rehabilitation process’, ‘Being stuck on a treadmill or daring to change’, ‘Evolving from routine to more aware behaviour’ and ‘Fitting in or not fitting in with work-place situations’.

Reaching safe ground or continuing to seek help. The overarching theme expressed the ability/disability to incorporate new strategies learnt from the intervention. Some participants had retained various strategies over time and applied them both at work and in other everyday activities. Others described that the strategies worked during the intervention, but they felt the need to receive new support after ended intervention.

From being passive to making one’s own efforts. This category described the transition from being passive to making active efforts instead of the often experienced passive treatment, usually consisting of a period of paid sick leave and medication. Both PBM and CBT gave access to tools which were immediately applicable in both work and other everyday activities. Frequently used tools included relaxation exercises. Putting thoughts and experiences from work and everyday life into words was a positive experience which led to new ways to interpret thoughts.

Being stuck on a treadmill or daring to change. This category described how the participants started to question their own perceptions and values of what must be done and how available they had to be at work and everyday life. Limiting availability could be manifested in strategies like setting time for work tasks, prioritise and create one’s own space to engage in own activities. Through conscious reflection during the intervention, the participants described an increased independence in relationships.
Evolving from routine to more aware behaviour. The category described a change in activity patterns. Activities, both work-related and in everyday life, were reflected on before being performed. New strategies included focusing on one thing at a time, avoiding multi-tasking, paying attention to activity patterns and delegating. Reflecting on responsibility could lead to more distinct lines of responsibility.

Fitting in or not fitting in with work-place situations. The category described the experiences of work organisation and strategies for handling the work situation. The participants described various experiences of indistinct organisations and absent managers. However, there were also experiences of managers who had been supportive. Strategies for handling workloads were to limit certain parts of the job or limit commitment and responsibility in the work-place. Another strategy was to accept circumstances as they were. However, this accepting attitude sometimes turned into an almost ignorant attitude which was expressed in work situations that were difficult to accept and at the same time difficult to influence. Reducing working hours was another way of handling the workload which could lead to doing the same work in less time. Before returning to work after sick leave, the participants described feeling doubtful. They didn’t want to risk their health again. Experiences of work rehabilitation in their own work-places which entailed doing limited regular work tasks while on sick leave and at the same time, they had seen how their other tasks piled up because no substitute had been appointed to do their job. Thus, what was planned as a cautious re-introduction to work became a stressor.

Summary of Study IV

The employers’ conceptions of work ability were revealed in three dimensions. These dimensions were: ‘The individual’s contribution to work ability’; ‘The employer’s contribution to work ability’; and ‘Circumstances with limited work ability’.
The individual's contribution to work ability. The first dimension described what employers perceive as important features of an individual for work ability. Work ability included being physically, mentally and cognitively available, however endurance in these abilities was pronounced. Abilities were related to the employers' own work-places. Being able to communicate which could include discussing with frustrated and dissatisfied customers as well as having a social ability were included in the ability to work.

The employers stressed the importance of employees' commitment to their work. Commitment was seen as a foundation for work ability and could bridge over other shortcomings. Coming to work just for the money was not enough. Having good work ability included the individual being able to be his or her own supervisor. This entailed that the individual should be reliable, take the initiative, be flexible, be aware of rules and have an overview of the various production steps.

Work duties should be done in accordance with the rules, in the most effective way. Minimising and applying lean methods to production should not affect quality and there were demands from the employers for accuracy, but not excessive work. Being productive as an employee was considered basic. According to the employers, demands on employees were sometimes too high but the employers didn't perceive that they had the power to change this. They referred to competition and demands from the market.

The employer's contribution to work ability. The second dimension described the employers' conceptions of features they contribute with when shaping work ability to fit specific work demands in their work-place. The employers expressed their responsibility for providing a supporting physical and social environment and inducting their employees about the “right way” of performing duties.

According to the employers, they played an important role in motivating employee's in order to enhance their work ability. Coaching through
regular conversations adapted to the employees' needs was a way for keeping and developing good work ability. The employers spoke of the advantages of knowing about problems before they became unmanageable, thus being able to adapt circumstances.

The employers described their responsibility to manage and organise work. In smaller work-places, an employer could manage production directly and adjust work duties almost immediately if they didn't suit an employee. Sometimes the employers created a team of workers with complementary abilities that matched a special assignment. In other cases, the organisation of the work was more structured and employees had to follow the organisation.

*Circumstances with limited work ability.* The third dimension described the employers' conceptions of situations with limited work ability as something related to specific situations. This could be something within the individual, something outside the individual or something transient such as young inexperienced employees.

Situations within the individual could be health problems or personality-related, like lacking interest in work duties. Situations outside the individual could occur in connection with the illness of close relatives. Divorces were described as having impact on the ability to focus and concentrate. Other contextual factors reported as restricting the ability to work were problems like home-life being overwhelming with responsibility for children, the home and earning money. Also, positive events like building a new house were experienced as time-consuming and taking commitment and focus from work duties resulting in restricted work ability.
Discussion

The findings from the four studies have been synthesised and are discussed according to three themes: Work ability – rehabilitation perspective (Study II) in relation to employers’ perspective (Study IV); Enabling and limiting factors for work ability (Study I-IV); and Work ability related to participation (Study I, III and IV).

Work ability – rehabilitation perspective in relation to employers’ perspective

In this thematic area similarities and differences between the rehabilitation perspective (Study II) and the employer perspective (Study IV) on work ability are discussed.

Work ability – the DFA-chain

The interventions in Study II were offered individuals on sick leave within the RG. Being on sick leave requires work ability limitation with reference to the DFA-chain [65]. Thus, the framework for the RG is limited to the DFA-chain. Consequently, work ability from the rehabilitation perspective is mainly directed function and basic, general abilities - the function and activity parts of the DFA-chain. The interventions (PBM and CBT) in Study II lead to reduced mental symptoms. Reducing symptoms is presupposed to enhance the ability to work which may be true in some sense. However, reducing symptoms might instead say something about improving function [5]. Also, general abilities were partly improved after the interventions. The DFA-chain with its focus on function and activity has similarities with an elaborated ICF core set for vocational rehabilitation [33]. The purpose with this core set is to serve as a framework for vocational rehabilitation. The main components in this
core set are physical tolerance functioning, mental energy and higher level cognitive functioning. Handling stress, ability to acquire skills and ability to handle interpersonal interactions are also included in the core set [33]. The ICF core set for vocational rehabilitation as well as the DFA-chain with focus on function and activity can be regarded as frames for the concept of work ability in the rehabilitation perspectives occurring in a primary health care context.

**Endurance – a part of work ability**

The employers shared the rehabilitation perspective on work ability as including basic, general abilities. However employers’ expectations on employees’ abilities could differ in quality depending on demands from the actual work setting. Essential, according to the employers, was to have endurance in these abilities. Endurance and be able to fulfil tasks until finished have been identified as important work abilities [87, 139]. Endurance was referred to both physical, mental, cognitive and communication abilities. Physical endurance could refer to both being able to sit still on a chair or to managing hard outdoor work. Endurance is less pronounced but indicated in the rehabilitation perspective. The subscales ‘physical ability’ and ‘roles and habits’ in DOA include items regarding endurance as do the components ‘physical tolerance’ and ‘mental energy’ in the ICF core set for rehabilitation, although expressed in general terms.

The employers expressed a wide range of cognitive abilities requiring endurance as being included in work ability. These abilities ranged from being able to turn off distraction and focus on work duties to more complex cognitive abilities. The employers expressed high demands on independence in performing work duties as part of having work ability. The expectations on independence, but still keeping to the rules and be able to overview production steps, put huge demands on cognitive abilities. These expectations are common in modern working life with downsizing which has led to reduced supportive structures for the employees [140-141]. Hagström and Hanson [141] discuss competence of
self-management as an important part in modern working life. Having self-management includes having ability both to insight and to overview. In Study III the participants expressed acquiring strategies like avoiding multi-tasking as a way to improve work ability from the intervention in Study II. A strategy like avoiding multi-tasking may contradict expectations of work ability from the employers’ perspective.

Commitment and motivation — as parts of work ability

From the employers’ perspectives in Study IV commitment and motivation were components of work ability which is confirmed as important abilities by other studies [81, 139]. The importance of commitment and motivation contrasts to the experiences from participants in Study III where limiting strategies were a result of the interventions in Study II. An accepting attitude almost turning into ignorance was expressed as a way to avoid engagement in work situations that were too difficult to deal with. The interventions in Study II representing the rehabilitation perspective may thus have led to limited commitment. This may be a result of improving health rather than improving work ability.

According to ICF, commitment and motivation can be regarded as personal factors [22] and not referred to as basic parts of work ability in the ICF core set for vocational rehabilitation or in the DFA-chain [33, 65]. Also Tengland [61] proposes that motivation, unless it is unrelated to health, should be excluded when defining work ability. In the rehabilitation perspective commitment and motivation are hence less relevant although the DOA subscale ‘personal causation, values and interests’ applied in Study II includes items directed at interest and motivation. The importance of commitment and motivation also agrees with occupational therapy theories as parts of performing activities both in work and everyday life [17, 26-27, 45, 142].

The employers’ expectations of commitment may need to be adjusted for enable a sustainable work situation for the employees. On the other hand the ability to feel commitment and sympathise with the work-
places could be considered to a greater extent for improving work ability in the rehabilitation perspective. Individual placement and support (IPS) is a method applied mainly to individuals with severe mental health disorders [143]. According to IPS, a suitable work situation in line with the individual’s interests is searched for, instead of focusing on training the individual’s abilities.

**Productivity – a part of work ability**

From the employers’ perspective, productivity was essential and the reason for having employees (Study IV). Studies have shown that employers express concerns regarding productivity among people with disabilities [84, 144] although experiences from other studies show satisfaction regarding productivity [89]. The importance of being productive is not articulated as a part of work ability in the rehabilitation perspective (Study II). Productivity is referred to in general terms rather than relying on actual circumstances. In the ICF core set for vocational rehabilitation [33] productivity can be traced to the components of ‘acquiring, keeping and terminating a job’ and ‘remunerative employment’ however this says little about the actual performance - the productivity - and more about the ability to stay employed. Productivity is not included in the DFA-chain. The discrepancy between employers’ perspective and the rehabilitation perspective on productivity may be inevitable. Nevertheless, more focus on productivity may contribute to focusing on the actual needs employers have and the actual abilities employees have. This means a shift of focus from the individual to the work performance situation. The understanding of employers’ conceptions of productivity as an essential part of work ability can help to better harness and adapt the abilities of people with disabilities.

**Situations that interfere with work ability**

The employers’ perspectives on work ability were described as relational and dependent on the actual work circumstances or other circumstances. Both individual and external circumstances could interfere
and limit work ability. This perspective is in contrast to the rehabilitation perspective focussing on reducing symptoms and improving individual abilities (Study II). This corresponds with the DFA-chain and the ICF core set for vocational rehabilitation [33, 65]. The DFA-chain does not consider any circumstances outside the individual. Only the individuals function and activities related to a diagnosis are taken into account. However, the ICF core set for vocational rehabilitation recognises some environmental components, but in general terms.

The employers’ perspectives on work ability as related to actual circumstances have similarities with the EHP model [15-16]. Within the EHP model it is impossible to observe the individual without regarding his/her environmental context. Nothing can occur without a surrounding environment. The interaction, the ecology, between the individual and his/her environment is emphasised [15-16].

To sum up, the similarities between rehabilitation and employer perspectives on work ability comprised basic general abilities. However, employers’ perspectives were broader and included more elaborated abilities suited to the work duties. Endurance in abilities was underscored. The employers also highlighted the importance of commitment and motivation as well as productivity which was considered fundamental. The rehabilitation perspective mainly concerns function and activity while the employer perspective, like the EHP model, included personal factors as well as actual environmental circumstances as having impact on work ability.

**Enabling and limiting factors for work ability**

This thematic area addresses enabling and limiting factors for work ability. First, environmental factors, such as the impact of regulations and support from professionals that follows from the regulations, are discussed. Thereafter there is a discussion of the employers’ impact on work ability followed by how work ability is influenced by the home
situation. Finally, the impact from change within the individual is focused on.

The impact of regulations and support from professionals

In Study I, the participants stressed experiences of unclear rules and regulations as hindering their ability to work. Rules and regulations about sick leave and unemployment were perceived difficult to understand and the experience was that they were constantly changing. Conversely, the participants in Study III didn’t express any experiences about unclear rules and regulations. Study I was conducted before the introduction of both the Rehabilitation Chain and the RG. Several of the participants in Study I had health problems which could be addressed in the same diagnosis groups as in the RG, i.e. unspecified neck, shoulders and back pain and CMD. However, the participants in Study I had been on sick leave much longer than the stipulated time for receiving the efforts from the RG [80] that the participants in Studies II and III had. This indicates that the introduction of the RG with distinct regulations has led to shorter waiting times and earlier rehabilitation. According to the results in Studies I and III with divergent experiences of support, this may be an effect of changes in regulations for individuals on sick leave. From being left in a ‘time quarantine’ without support in the return to work process the RG now offers the possibility of support in return to work. Although both Studies I and III are small studies with only sixteen participants each, the results show this tendency.

One consequence of regulations is the possibility of getting support from professionals. The need for external support from professionals was articulated by participants in both Studies I and III. Some of the participants in Study III expressed that the interventions had given them access to tools and strategies useful both at work and in other everyday situations. The participants’ conclusion from these experiences is that the intervention had worked, i.e. had served as a rehabilitation effort. However other participants expressed immediate need for new support after the intervention. The discrepancy between the participants who
expressed they had acquired useful tools and the participants who sought new support can be related to types of postures in the rehabilitation process identified by Hansen et al [11]. The participants who expressed they had acquired useful tools and strategies correspond to the self-directed type. The self-directed type has a belief in their own resources and sees him/her as capable of working. The participants seeking new support correspond to the ambivalent type who is ambivalent regarding many things in life and experiences a continuous need for advice and support. This need for long-term support could be considered to a greater extent. Offering the opportunity to take part in supporting groups like PBM groups could be a way of satisfying this need.

How support is organised and administered is also of importance. The context for the interventions may be of major importance for enhancing the ability to work [145]. In a work-place context, it is possible to make adjustments according to the individual's needs in work performance. The involvement of work-place interventions has been found to increase return to work for individuals with mental health problems compared to those who only receive medical interventions [146].

**Employer impact**

According to the results from Studies I, III and IV, there seems to be a discrepancy between the participants’ and the employers’ perceptions of providing a sustainable work environment and training in performing work tasks. The employers perceived work ability as being able to be your own supervisor. These expectations seem to be too high according to the participants who perceived work demands as both unclear and never-ending.

The experience of unlimited demands can be referred to the concept ‘occupational form’ [17, 21]. One aspect of occupational form is occupational norm, which does not seem to have been explicitly pronounced by the employers since work duties seem unlimited for the employees. Nor has the employees reached an occupational synthesis, i.e. agreed upon
and integrated the work demands. This implies a need for more explicit communication regarding work duties. The employers in Study IV showed different styles in managing and organising work. Some employers meant that the organisation regulated work performance among the employees. In these cases the organisation was perceived as difficult to alter. The experience of work duties with unlimited demands in Studies I and III can be a result of a lack of situational leadership where the employer has failed to adapt his/hers leadership style to the employees. Poor managerial leadership has been found to have impact on employees’ wellbeing and health [147-148].

In other cases the employers in Study IV showed situational leadership and organised work duties according to circumstances involving the employees’ abilities [149-150]. Situational leadership has been found to reduce sick leave [151-152]. Situational leadership is adapted to the employees’ readiness in the work situation. Readiness includes both ability and commitment. Situational leaders’ ways of organising work duties follow the strategies from the EHP model [15-16], such as to ‘adapt’ and ‘alter’ according to the individuals’ abilities. They may also have the opportunity and ability to both ‘create’ and ‘prevent’ duties, i.e. form teams with complementing abilities. This way of actively matching the job to the individual employee has been found among employers who had positive experiences of hiring people with disabilities [149-152].

To adapt and adjust the work situation is a measure that can be overlooked and not paid attention to. Adaptations are often visualised as physical adjustments but, as work demands have changed, such measures can also include organisational and cognitive adaptations. These adaptations may not always be in the mind of either the employer or the employee and therefore nothing that is asked for. In Study III, the participants expressed experiences of unsatisfactory circumstances in rehabilitation in the ordinary work-place. Therefore it is of importance to consider adjustments at the work-place.
Impact of the home situation

Close social environments, like one’s family, were perceived as supporting in Study I, while the opposite was expressed among participants in Study III. Study I was undertaken among people who had been sick listed for between seven months and three years, while Study III was undertaken among people with shorter sick leave periods following the regulations from the Rehabilitation Chain [3]. The environmental circumstances thus differed for the participants in Studies I and III.

The participants experiences of support from their families in Study I can imply an orientation towards family life when not being a part of working life. The support may be orientated towards encouraging return to work rather than support for managing an actual work situation. For the participants in Study III, demands from both work and family were perceived as overwhelming. Shaw and Polatajko's distinction between micro- and macro-environments indicates the existence of several environmental circumstances with simultaneous impact on the individual. For the individual these circumstances can conflict with each other resulting in spill over between the different circumstances [54-55, 153-154]. This spill over has in some studies been found to be stimulating for both the work and the home/family situation [155]. However, having expectations from both the work situation and one’s close social environment on performing occupations implies an increased complexity of demands on doing. Erlandsson et al. [156] have identified how various types of occupations are ongoing and managed simultaneously. Occupations can be labelled as ‘main’, ‘hidden’ and ‘unexpected’ occupations and they can interfere and conflict with each other. Patterns of daily occupation have been found to vary in complexity, with more or less interfering and conflicting main, hidden and unexpected occupations. In rehabilitation contexts, it may therefore be important to not only regard the complexity of the work situation but also the complexity of all the individual’s roles and daily occupations [156].
Impact of change within the individual

Individual change for improving work ability was described in Study I, II and III. The change in individuals ranged from symptom reduction and acquiring tools and strategies to starting a reorientation.

In Study II, the results showed that symptoms of both anxiety and depression were reduced in both the PBM and the CBT groups after the intervention. Interventions with the main purpose of reducing symptoms have been found to have less or negligible effect on return to work [96, 145], and sometimes have even delayed the process of returning to work [157]. Symptom reduction may increase health and be a prerequisite for health, while the impact on ability to work may be more restricted.

The participants in Study III, mainly women, expressed how tools and strategies for handling stress and a more aware behaviour were developed. Similar experiences have been reported after participating in rehabilitation programmes for women [74, 158]. The women in these studies expressed how they became more aware of their performance of daily activities and had gained alternative strategies for performing activities [74, 158]. Acquiring tools and strategies may thus be part of enhancing work ability.

In Study III, most of the participants were employed and on sick leave partly or fulltime. This could mean – though not explicitly expressed - that both the participants and the professionals in Study III were orientated towards the existing work situation. This orientation is in accordance with the EHP person orientated strategy ‘establish /restore’. Although the participants in Study III expressed better strategies in handling situations in general after the interventions, they also expressed reluctance towards going back to the job that they felt had caused their illness. This reluctance to return to the work-place has been identified in a study by Holmgren and Dahlin Ivanoff [74] where perceptions of work circumstances turned into obstacles for return to work. Also, the accepting attitude sometimes almost turned into an ignorant attitude with a
touch of disappointment. The ‘accepting ignorant attitude’ can imply difficulties in dealing with work demands. The thought of changing work situation is not explicitly commented on in the interviews and is not a standard part of the interventions in the RG. Nonetheless, in the light of experiences from the participants in Study I the option to change job should maybe be considered [159]. The participants’ experiences of a need for reorientation in Study I suggest a broader perspective than medical in enhancing work ability and return to work [145-146, 157]. For some of the participants in Study I, it was a relief when they had to leave their former jobs. When looking in the rear-view mirror, they appreciated their new job and the change they had been forced to make. Reorientation, or the strategy ‘alter’ according to EHP, can be recognised in this change.

Reorientation with the purpose of enhancing job turnover is in many ways a delicate issue. Considering other jobs has to be seen as an opportunity. Maybe measures in the RG should also include – or offer - taking part in job guidance courses, with the opportunity for the individual to reflect over future work participation and become aware of possibilities and restrictions in the labour market. The significance of reorientation has also been found in other studies [109, 160]. Mettävainio and Ahlgren [109] stress the importance of a reorientation process for gaining work ability.

In summary, with reference to the results from Studies I - IV, the promotion of work ability can be multifaceted and implemented from various angles. In this thematic area support, adaptation, rehabilitation and reorientation have been identified as various strategies for enhancing work ability.

‘Work ability’ related to participation

The issue for the third thematic area is how ‘work ability’ is related to participation (Studies I, III and IV). Here, participation refers to in-
volvement in a life situation as formulated in the ICF and in occupational therapy theories e.g. [17]. Participation is also discussed in relation to Arendt’s concept vita active. The concept of ‘participation’ is not explicitly expressed in the studies but can be understood and interpreted from the results in Studies I, III and IV. Another aspect of participation refers to a more formal meaning, i.e. participation in the workforce. This aspect is also discussed.

**Underload or overload of participation?**

In Study I, the participants described a lack of participation which was expressed as a lack of belonging to working life. Lack of participation in working life has been described and identified in other studies, especially among people with disabilities [43, 50, 53, 161]. Among the participants in Study I, the lack of participation seemed to create a feeling of being an outsider. This indicates a need for participation with something external and outside the individual. Schnell et al [162] discuss the meaning of work and emphasise the character of something beyond the self as an important element in the meaningfulness in work. The possibility to contribute to society in one way or another has been identified as an important part of meaningfulness and for experiencing participation in working life [161-162]. In the long run, a lack of participation can lead to occupational alienation [27, 50].

The participants in Study III expressed almost the opposite. Their experiences of demands on commitment can be understood as an overload of participation both at work and in the home situation, something which has also been reported in other studies [74, 158, 163]. Occupational imbalance has been identified as a risk factor for health [27] especially among women [164-165]. For the participants in Study III, a more reflective way of participating and limiting commitment led to a more sustainable way of managing work demands. This experience of an improved ability to work after acquiring a more aware and limiting commitment after interventions has been found in other studies [74, 158]. From the individual’s perspective, limiting strategies for participation
may be a way of protecting oneself from overload. High levels of commitment at work have been found to increase the risk for future sick leave [166]. In a German gallup study 86 % of the employees reported no or low commitment to their work-place [162]. On the other hand, commitment has been found to enhance return to work after sick leave [167]. For the employers, in Study IV, participation in the work-place was considered profound and the importance of employees' commitment to their work was underlined as an important part of work ability. Less commitment can in the long run also be harmful for both the individual and the work-place [162].

While participants in Study I asked for more participation at work the participants in Study III asked for strategies to limit participation. While the participants in Study I waiting for support were stuck in a time quarantine, the participants in Study III taking part in the RG were stuck on a treadmill. The experiences of participation were thus opposite for the participants in Studies I and III. However, both groups expressed occupational imbalance [27, 50]. From the employers' perspective, participation was regarded important for work ability. Thus, the significance of participation for work ability seems ambiguous.

*Participation related to vita active*

The participants in both Studies I and III described and experienced difficulties in achieving balance and satisfaction regarding work and other everyday activities. Occupational alienation and occupational imbalance can lead to occupational deprivation with ill health as a consequence [27]. It can be fruitful to relate occupational deprivation to Arendt’s modalities of vita active. According to Arendt [25] being a human includes all aspects of vita active; labour, work and action. However, it is in action that humans can achieve freedom and what characterises a good life [25, 41]. Lenz [41] highlights the situation with an emerging gap between people who are overworked and people who are unem-
ployed and sees an opportunity to question if this traditional organisation of work is the only available model for humans.

The three different modalities of vita active are not to be understood in a concrete way but rather to be understood in terms of the different ways activities can unfold [41]. Labour and work occur between the individual and the physical environment while action occurs between individuals and action is the only modality that is related to participation with other humans. Demands on performing never-ending labour together with goal directed work may in the long run drain and thus lead to ill-health. The lack of action may lead to feelings of not being part of the human relationship.

Work is characterised by a finite end [25, 41]. Something is produced. To achieve a certain end the most efficient steps can be determined [41]. This can be related to the employers’ expectations on ‘lean production’ as part of work ability. Action, according to Arendt is largely reserved for unforeseeable encounters resulting in something unpredictable. Paid work can therefore mostly not be regarded as part of action. A predictable result following forms and norms in the process was described as important among employers in Study IV. In working life today, many jobs and professions deal with relationships rather than constructing or manufacturing products. This can lead to expectations from employers to produce results thus losing the possibility to create relationships.

The participants from both the PBM and the CBT interventions in Study III showed satisfaction with the interventions. Both interventions build on changing behaviour. How the changed behaviour will turn out is not known from anyone at the start. The interventions build on speech and communication and the possibility to reflect. A range of features characterising the interventions are in line with Arendt’s concept action [168, 169]. Arendt proclaimed that it is in the modality of action that humans can be truly human, reach well-being and a good life. The duality with more than one person involved is one thing the interventions and the modality action have in common. Not knowing what the result will be is
another feature in common for the interventions and action. Speech, communication and reflection characterise action as well as both PBM and CBT [168, 169]. This indicates that interventions like PBM and CBT may be in line with Arendt’s action. If so, action, which Arendt meant belonged to the public sphere, has been transmitted into a medical sphere.

Work a source for welfare and wellbeing?

In many countries, participation in the work force is stressed as being important both for the individual and for society. The so-called jobs strategy has a long tradition in Sweden and in other countries [23, 170]. The jobs strategy is often referred to as an important component in promoting participation in working life, thus referring to the individual’s need. However, it is also argued that the jobs strategy is important for maintaining welfare in a society. With a longer educational period among the younger population and increasing age among the older, the years for the population to work and pay taxes have been relatively diminished. Together with a generous social benefit system the economic burden for society has been considered too high. Therefore the jobs strategy, aims at including as many people as possible in working life for the purpose of maintaining welfare in society. However, sick leave is a seemingly ongoing problem, not only in Sweden but in many Western societies [170]. For some people working to maintain welfare can lead to diminished well-being. The need for sustainable work is advocated as a way of developing tolerable and balanced work situations [171-172] for enhancing participation in working life.

In summary, participation can be longed for as well as perceived as overwhelming. How activities unfold may be of importance for experiencing participation. According to vita active the modality of action is essential for humans; however it is not often experienced. For some people, working for welfare implies diminished well-being. This indicates a need to develop sustainable work situations to enhance an enriched participation in working life.
Methodological considerations

This thesis used both qualitative and quantitative methods directed by the aims of the thesis, which according to Kazdin [173] can contribute to strengthening the results.

The qualitative studies (I, III and IV)

To ensure rigor in qualitative research trustworthiness is estimated using four criteria: credibility, dependability, confirmability and transferability [174]. Choosing the appropriate methodology is one part of enhancing trustworthiness through the research process [119]. In this thesis, three different qualitative methodologies, grounded theory, constant comparative method and phenomenography, were chosen with the purpose of capturing the study questions, thus enhancing credibility.

Participants and settings

In Study I, a total of sixteen participants participated in five focus group interviews. Opinions about the number of participants in a focus group can differ [114, 175], four to ten participants are usual [175]. Larger groups can reveal more experiences on which the individual can agree or disagree. However, a risk with larger groups is that participants may feel uneasy about fully expressing their experiences within the group and thus threaten credibility [176]. The risk with small groups is that discussions can be meagre [114, 175] and thereby limit credibility. In focus groups with sensitive research questions smaller groups may be preferable not only for the purpose of getting information but also from an ethical point of view. Some researchers [115] conclude that a small group of three participants can be just as substantial as groups with more participants.
Upon initial contact with the presumptive participants in Study I, it became obvious that they preferred to participate in small groups and the decision was made to accept groups with three participants. All focus groups were characterised by lively discussions.

The intention in Study I was to conduct a theoretical sampling. However, because of difficulties with recruiting participants this was only partly achieved and a convenient sampling in line with Polit and Beck [176] was undertaken. Recruitment difficulties were mainly due the participants' lack of time and may have resulted in a representation of more participants who worked part-time, which could be a threat to credibility. However, the aim of the study was to explore experiences from the past, thus full- or part-time employment may be of minor importance.

In Study III, the participants were selected purposefully within the Study II group. To ensure credibility, variation among the participants within this context, with regard to intervention, county, sex, age, and return to work, was taken into account. However, since the availability of participants was restricted and most of the participants in Study II were women (6 men and 44 women), the sample ended up with two men and sixteen women. Therefore, ensuring credibility in the study through purposeful sampling was restricted.

In order to strengthen credibility in Study IV, variation was sought among the employers regarding age, gender, number of years as an employer, number of employees, employees' gender and educational requirements, geographical location and industry. Moreover, employers in close contact with production and with an understanding of work demands were chosen. However, this may have limited the sampling to smaller and medium sized companies. Similarly, not all industry branches were represented, which may have weakened credibility. Furthermore, in order to strengthen credibility, only employers with experience of having employees with disabilities were included in the study. This ensured informants with rich descriptions and experiences of the work ability of disabled employees [121, 173]. On the other hand,
their attitudes may have been more positive than those of employers without experiences of employees with disabilities, thus limiting transferability.

In order to provide transferability, the participants chosen in Studies I, III and IV were described. Furthermore, descriptions of the specific regulation contexts (Studies I and III) and branch industry (Study IV) were also provided to enhance transferability. Nonetheless, transferability may be limited in contexts with rapidly changing regulations and rules. For example, the regulations in Studies I and III have changed considerably. Furthermore, the demands, circumstances and regulations of the labour market can change rapidly which, in turn, may complicate the transferability.

**Data collection**

The interview questions in Study I were derived deductively, evolving from the Occupational Competence Model [28], in order to define the area of the participants’ experiences. This may have reduced credibility with “fixed” question areas. However, experiences are not always explicit and may be hard to verbalise. Therefore, the defined areas for the interview questions served as a help to the informants to articulate their experiences. Since the chosen method for the analysis was a constant comparative method, the results from the initial data were used in the ongoing data collection, which implied a possibility of elaborating on the questions along with the research process.

The effect of other circumstances was especially considered in Study III since the aim of the study was to describe experiences from interventions. Interviewing the participants 2-4 months after completing their intervention may seem like a short period of time on which to generalise regarding new strategies and behaviour. However, the intervention lasted for 12 weeks. Waiting too long after the intervention was considered a risk to credibility since factors other than the intervention might
have an impact on the participant’s ability to work and perform other everyday activities.

In order to strengthen dependability, the interviews in all studies were performed under similar circumstances, except from five interviews in Study III and two interviews in Study IV. These interviews were conducted by phone which may have decreased dependability. However, to strengthen dependability, the participants decided the most convenient date and time for the interviews and were explicitly informed about the estimated length of the interview. These measures were conducted with the purpose of securing as equivalent conditions as possible for those interviewed face to face and those interviewed by phone.

**Data analysis**

Reflection notes were written in all studies [I, III and IV]. Reflection notes were discussed with co-authors in the studies and this may have enhanced confirmability [174]. The pre-understanding of the author of this thesis is described in the preface. Furthermore, all authors in the studies, had different pre-understandings from different contexts and collaborated in the data analysis process thus enhancing credibility. The constellation of authors was the same in Studies III and IV, which support dependability.

In Study III, data from two different interventions (PBM and CBT) were handled as one dataset, something which might be problematic for credibility. However, the main purpose of the study was not to compare the two specific interventions. The purpose was to understand how individuals experienced the impact of an intervention in the RG, and its impact on their ability to work and perform other everyday activities. Interviewing participants from each intervention in focus groups could have been an alternative. However, because PBM is a group intervention, the informants knew each other. Also, it could have been difficult for them to distinguish between a group session as part of an intervention and a group session as a focus group. With the purpose of improv-
ing transferability, the contribution from the two interventions involved was clarified.

Credibility was also strengthened by the detailed description of the various steps following the methodologies in each study [120-121, 174].

The quantitative study (II)

Participants and settings

The recruitment process in Study II failed to recruit the 200 participants that were calculated in the power analysis. Only 50 participants completed the interventions. In addition, the drop-out rate was 44%. Taken together, the recruitment difficulties and the drop-out rate posed serious threats to statistical conclusion validity. On the other hand, there were significant within-group differences on all subscales on the primary outcome measure of work ability (DOA) at a 28-person level in the CBT group which indicates reasonable statistical conclusion validity [176].

The study was performed in a natural clinical setting in which rigorous control over presumptive confounders posing threats to internal validity is not possible. The main measure to strengthen internal validity was to develop manuals for the CBT and the PBM interventions respectively. Adherence to these manuals was also monitored in supervisory sessions throughout the study. By choosing a natural clinical setting for the study, generalisation of the results could be facilitated to other similar settings, making results more clinically useful. In this way, one could say, that internal validity was traded for external validity [173].

Among other things, randomisation is supposed to elicit an unequal distribution of confounders among participants. In studies where interventions cannot be blinded, as in psychosocial interventions, unequal distribution can occur as an unintentional effect [173, 177]. In the case of
anxiety symptoms, randomisation did not succeed in evening things out between the two study groups, as the PBM group turned out to have participants with significantly higher levels of baseline anxiety, which, in turn, could have been confounding to the results. Subgroup analysis might have been a way of shedding some light on this matter. Unfortunately the groups were too small to allow this type of analysis.

There might also have been some expectation bias confounding the results. Since CBT is considered the “gold standard” [178] the participants who were randomised to CBT may have seen themselves as the “lucky winners” and their positive expectations might have had an impact on the results. Similarly, the participants allocated to the PBM group may have been disappointed and not been motivated to make the treatment successful. On the other hand, there may be those who were disappointed that they received CBT, wishing they had got PBM and intervention in a group. It is not known if any such bias occurred. One could presume that disappointed participants would drop-out of the study; however, the drop-out was relatively equal distributed between the groups.

Furthermore, the participants were randomly assigned to either an individual or a group intervention. This meant that practical and constructive circumstances differed. There is a risk that the outcome to some extent could depend on these different settings rather than the content of the interventions.

**Data collection**

The aim in Study II was to evaluate methods within the RG. Therefore, screening and process instruments frequently used in clinical settings were chosen. All of them have been tested regarding their psychometric properties. The HADS is widely used and has shown good reliability [179] as well as validity [128]. However, the HADS has shown lack of acceptable internal reliability on the depression scale [180]. Even though it might mean that some of those with depressive symptoms
were missed, there was, as far as known, no alternative instrument that could have been used instead.

Originally the HADS was developed for individuals in somatic health care, which might be seen as well in accordance with applying the instrument in a primary health care setting. Both subscales in HADS instrument showed satisfactory internal consistency reliability (Cranach’s’ alpha) with a-values of 0.84 and 0.88 respectively.

Stress symptoms were evaluated using the SCI-93, measuring stress as manifested in autonomous dysfunction. Psychometric testing of the instrument is restricted to a few smaller studies, though they have shown good psychometric properties [129]. Alternative instruments for measuring stress in Study II could have been directed by the work-place [181]. However, since the SCI-93 had been applied in evaluating work ability in insurance medical contexts it was found appropriate. It also showed sufficient internal consistency reliability in the present study with Cranach’s’ alpha ranging from 0.78 to 0.86.

Work ability was measured using the instrument DOA which has shown satisfactory test-retest and inter-rater reliability as well as good construct validity, though in a limited number of studies [16, 17]. The decreasing scores for the subscale ‘roles and habits’ in DOA may indicate a psychometric problem in this particular setting. The instrument WAI, developed by Ilmarinen [57], was considered as a measurement for work ability. However, despite showing good reliability and validity [182], this instrument is more concerned with the perception of a general ability to work than DOA. The DOA instrument provides an opportunity to assess various components and skills within the individual [15, 17] and internal consistency reliability for the subscales ranged from 0.88 to 0.96.

The procedure for collecting data was the same throughout the study. The questionnaires were distributed in the same way to all participants throughout the study, which enhances reliability.
Data analysis

The aim of Study II was to analyse data according to intention-to-treat, i.e. to also collect data from participants who had dropped out. Intention-to-treat was considered more reliable than per protocol analysis, which is in line with Altman [132]. When contacting participants, it was evident that many of them had limited potential to engage in answering questions they no longer had any interest in. They were often fully occupied with other measures initiated according to the time schedule in the rehabilitation chain. From an ethical point of view, the ambition to collect data from study drop-outs was therefore abandoned; this may have limited reliability.

As mentioned earlier, a limited number of participants can pose a threat to statistical conclusion validity. In the power analysis, 100 + 100 participants were calculated to be a sufficient number, and less than 1/3 was reached. However, the results in Study II showed significant results to such an extent that they speak against serious problems with statistical conclusion validity. On the other hand as the PBM group was 20% smaller than the CBT group, it is not known if some of the non-significant results in the within-group analysis were due to the lack of power. The limited number of participants also hindered sub-group analyses which might have contributed valuable knowledge and illuminated how factors like gender, diagnoses and education co-vary with the two interventions and impact on the results. This limits statistical conclusion validity [176].

When calculating statistical power, the instrument for the main outcome measure, DOA, was used. A difference of one scale step with a standard deviation of 1.23 (Cohen’s effect size = 0.81) was rated as “a large effect”. This calculation indicated a sample size of 100+100 participants randomised to the experiment and control groups giving a power of over 90 % and an alpha at 0.05 [132]. The calculation of one scale step can be discussed.
There may be limits regarding internal validity in Study II. The aim of the study was to evaluate the interventional capacity of PBM and CBT on symptoms of anxiety, depression and stress and the improvement of work ability. Symptom reduction was reached to a great extent in both study groups while improvement of work ability was less attained. The question is if the interventions conducted in a primary health care setting really targeted ability to work? Further research is needed for evaluating interventions with the purpose of improving work ability.
Conclusions and implications

Conclusions

The results of this thesis with the aim of illuminating perspectives on ‘work ability’ indicate that various perspectives need to be clearly pronounced rather unified. Clearly pronounced perspectives can contribute to better illustrate the dynamic within the relational and multifaceted concept of ‘work ability’.

From the individuals’ perspectives, support from professionals was found essential. However, the results indicate that the use of active coping-developing support rather than passive treatments should be promoted for enhancing ability to work. The abilities to incorporate strategies for improving ability to work varied among participants, from immediately incorporating strategies to needing new support directly after the intervention. Individual changes could range from symptom reduction to acquiring tools and strategies as well as starting a reorientation process. Similarly, environmental aspects need to be considered. This implies support tailored to fit the individual’s needs.

There is a predominance of women on sick leave. To regard sick leave solely as a medical problem may be too narrow a scope, which overshadows other contextual factors. There is a need for support/interventions which not only target the individual but also environmental factors like work and home situations as well as the interaction between those spheres.

CBT showed significantly better interventional capacity regarding the reduction of anxiety, depression and stress symptoms while there were no significant differences between PBM and CBT regarding self-assessed ability to work. However, the within-group results, which show signifi-
cantly reduced symptoms regarding anxiety and depression as well as mental stress symptoms, indicates offering PBM group intervention as an alternative to CBT for symptom reduction. The interventional capacity regarding self-assessed work ability was significant on all subscales of DOA for CBT in the within-group analysis which suggests CBT as an intervention for improving work ability.

The employers’ perspectives of work ability were multifaceted and had a broader scope than the rehabilitation perspective. The employers highlighted their own contributions in forming and shaping work ability to fit their production and work circumstances. The discrepancy between employers’ perspectives and a rehabilitation perspective on work ability may be inevitable, but it is important to understand in order to better harness and adapt the capabilities of people with limited ability to work.

Thus, the ability to work can be enhanced through individual efforts, discovered through reorientation and created through support and adaptation.

**Practical implications and future research**

This thesis has contributed with increased knowledge of perspectives on work ability with significance for practical implications and future research.

The need for professional support in gaining ability to work suggests taking this need into account in practical circumstances and also in how the support should be framed. Support could range from rehabilitation, reorientation to adaptation efforts according to the individual’s needs. The possibility to improve work ability not only within the individual but also through external change should be taken into account to a greater extent.
The findings regarding varying abilities to incorporate strategies that were found may also be valuable for practical implications. While some people immediately incorporate new strategies after interventions, other people may need long term support. In the latter case, after completed interventions, PBM groups could serve as long-term support with the purpose of enhancing sustainable work. However, the effects on a sustainable ability to work need to be further investigated.

The significant improvements in the PBM group on the ‘communication and interaction’ subscale can be useful knowledge when adapting rehabilitation interventions based on individual needs. For individuals who experience difficulties in communication and interaction, participating in a PBM group may enhance their abilities to work.

The findings regarding the importance of an employee’s commitment and interest which, from the employers’ point of view, can bridge other shortcomings, is valuable knowledge when planning work rehabilitation. Similarly, employers’ contributions in developing work ability need to be considered and taken into account to a greater extent.

Taking into account the various perspectives on the concept of ‘work ability’ could be valuable to a greater extent in practice. The various perspectives can contribute to a better and more multifaceted understanding of the phenomenon of ‘work ability’ and shift focus from individual abilities to the work performance situation.

In this thesis, ‘work ability’ has been illuminated from the perspectives of individuals, rehabilitation and employers. The ability to work is an essential ability in society. The concept is characterised as relational and other aspects, like the insurance medical perspective, have also been illuminated. How the concept of work ability is understood and perceived among professionals has been partially investigated. Yet, several other important aspects have been less investigated. How the concept is understood from a lay perspective is barely understood. It could be useful to understand the lay perspective and relate it to other perspectives,
like rehabilitation and insurance medical perspectives. Research regarding an integrative theoretical framework for describing perspectives of ‘work ability’ would be valuable.

Work ability can vary from full ability to full disability. For people with disabilities, work ability may be reduced regarding some aspects but also be sufficient in other aspects. This disparity in ability may appear logical and predictable for work colleagues in some cases but also confusing and difficult to understand in other cases. The irregular ability to work can thus result in more or less unexpected consequences for colleagues. Colleagues’ experiences of working with people with disabilities may therefore be of importance to investigate.
Arbetsförmåga är ett mångdimensionellt begrepp som har stor betydelse för både individ och samhälle. Olika syn på begreppet arbetsförmåga förekommer exempelvis inom försäkringsmedicin, handlingsteori och företagshälsovård. I stora drag kan dessa synsätt dikotomiseras till att å ena sidan handla om rätten till sjukförsäkring och å andra sidan att främja och förbättra arbetsförmåga.

Syftet med denna avhandling var att belysa arbetsförmåga från ett individperspektiv (Studie I och III), ett rehabiliteringsperspektiv (Studie II) och från ett arbetsgivarperspektiv (Studie IV).


I Studie I intervjuades tidigare sjukskrivna arbetslösa om sina erfarenheter av stöd och hinder från omgivningen på sin väg tillbaka till arbete. I resultatet framkom upplevelser av förändrad självbild och livsrytm och behov av omorientering och stöd från professionella. Vidare uttrycktes upplevelser av att sitta fast i en ”tidskarantän” dvs. en lång och destruktiv väntan på stöd att komma tillbaka ut i arbetslivet. I Studie II utvärderades egenvårdsgrupper med problembaserad metod (PBM) beträffande effekter på ångest depression och stress och arbetsförmåga som en metod inom rehabiliteringsgarantin. PBM jämfördes med sedvanlig in-
dividuell kognitiv beteendeterapi (KBT). Deltagarna i studien var sjuk- 
skrivna för lindrig till medelsvåra psykisk ohälsa. Data samlades in via 
frågeformulär med självskattningsinstrument. Inomgruppsanalyser 
visade signifikant symtomlindring för ångest och depression i både PBM 
och KBT-gruppen. Mellangruppsanalyser visade signifikant symtom- 
minskning av ångest, depression och stress för KBT. Minskade stressym- 
tom var mera uttalat för KBT. Beträffande arbetsförmåga visade inom- 
gruppsanalyser signifikant förbättring på en av fem delskalar i PBM- 
gruppen och fyra av fem i KBT-gruppen. Mellangruppsanalysen beträf- 
fande arbetsförmåga visade inga signifikanta skillnader. I Studie III in- 
tervjuades 16 deltagare som genomgått PBM eller KBT, hälften från var- 
dera interventionen. Intervjuerna fokuserade på upplevelser av inter- 
ventionen och om hur den påverkat arbetsförmåga och förmåga att 
utföra övriga vardagsaktiviteter. Resultaten visade att interventionerna 
hade en positiv inverkan på arbetsförmåga och att utföra övriga var- 
dagsaktiviteter på ett mera hållbart sätt. Att reflektera över sitt ageran- 
de och att ta till sig gränsättande strategier upplevdes som värdefullt 
från båda interventionerna. Resultaten stödjer användandet av aktiva 
copingutvecklande interventioner snarare än enbart passiv behandling 
som sjukskrivning och medicinering. I Studie IV intervjuades 12 arbets- 
givare om deras uppfattningar av begreppet arbetsförmåga. I resultaten 
framkom tre domäner: 'den anställdes bidrag till att realisera arbetsförmåga', 'arbetsgivarens bidrag till att realisera arbetsförmåga' och 'omständigheter med begränsad arbetsförmåga'. Arbetsförmåga uppfat- 
tades som ett verktyg i produktionen. Vidare visade resultatet att an- 
ställdas engagemang och intresse kunde överbrygga andra begräns- 
ningar.

Sammanfattningsvis, i rehabiliteringsprocessen behöver olika perspek- 
tiv på begreppet arbetsförmåga beaktas för att förbättra inte bara indivi- 
dens förutsättningar utan även interventioner i rehabiliteringen, och 
omständigheter på arbetsplatser och i vardagen. Olika perspektiv kan 
bidra med att bättre illustrera den dynamik som ryms inom det relation- 
nella och mångfacetterade begreppet arbetsförmåga. Förmågan att ar-
beta kan därmed förbättras genom att öka individens förmåga, upptäck-
as genom omorientering och skapas genom stöd och anpassning.
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